AIR CONDITIONING & REFRIGERATION NEWS
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Inside Dope

By GEORGE F. TAUBENECK

Learn to live and laugh — thus delay your epitaph

Stories of the Week
Worst Story of the Week
Quote of the Week
Out of Our Mailbag
Thought Starters
Quotes of the Week

Stories of the Week

According to a Presbyterian preacher we know quite well, the following would be an ideal advertisement by, for, and from a vacant parish:

WANTED: a young preacher with the experience of a parrot, the sagacity of an owl, the strength of an eagle, the grace of a swan, the gentleness of a dove, the friendliness of a sparrow; up with the lark, at work with the hawk, and who, when they get him caged, will live on the feed of a canary.

"Show me," a young fellow begged Wolfgang Amadeus Mozart, "how to write a symphony."

"You are a bit young to begin writing symphonies," Mozart returned.

"But you composed one when you were only 10 years old," the youth protested.

Mozart retorted: "I did not have to ask how."

Worst Story of the Week

"Did you hear that Gene Autry's new Female Lead is married?"

"Yeah. But she hadda work like a horse to get herself a groom."

Quote of the Week

"Women are more nobly proportioned these days."—P. DORSEY, designer of folding chairs for banquets, funerals, and auditoriums.

Some people ask for your candid opinion and then get angry because it isn't candied.

And then there was a fellow who started at the bottom. He liked it so well he stayed there.

Out of Our Mailbag

Writes practical economist John Hancock:

"It is recognized that aggressive competition may result in a virtual identity of prices. It is also suggested that an unlawful price conspiracy will achieve price identity. Yet the Committee will discover that a considerable part of the present uncertainty flows from the insistence of government and particularly administrative officials in as-

(Concluded on Page 8, Col. 1)

New Carrier Packaged Unit Design Aims at Shifting Market Condition

NEW YORK CITY—The first packaged air conditioner designed expressly for low-cost central duct system air conditioning of stores, suites of offices, and other large areas is now being introduced to the field by Carrier Corp.

Developed specifically to meet recent trends in packaged installations, the new self-contained "Weathermaker" eliminates all of the dealer "tailoring" of units formerly required on jobs using ductwork, according to John M. Bickel, vice president of Carrier's Unitary Equipment Div., who presided at the introduction. About 70% of packaged equipment is installed with duct systems, Bickel states.

The new models offer greater versatility in supply and return duct connections, reduce the amount of space required, and permit more freedom in location, whether installed singly or in a multiple unit system, Bickel said.

Wiring connections are simplified, particularly in those cases where cooling towers or remote thermostats are added. The new unit requires less refrigerant and features a multibank cooling coil of new design to improve efficiency and prevent re-evaporation of condensed moisture.

For the first time in a packaged commercial air conditioner, no return air grilles or openings mar its solid front panel. For in-the-space installations,

(Continued on Page 10, Col. 3)

Lonergan To Make Coolerator Room Units

ALBION, Mich. — McGraw Electric Co. has announced that its Lonergan Mfg. Div. here will manufacture and market Coolerator air conditioners, dehumidifiers, and window fans this next year.

This complete new line of Coolerator products will be entirely new from the standpoint of tools and style, it was stated.

Full-scale production of the

(Concluded on Back Page, Col. 2)

Emerson Appoints Mitchell Sales Mgr.

NEW YORK CITY — Frank Mitchell has been named sales manager for air conditioning by Emerson Radio & Phonograph Corp., it was announced recently by Michael Kory, vice president in charge of sales.

F. Mitchell

Mitchell brings 20 years of experience in the appliance field in sales executive posts with major industrial

(Concluded on Page 4, Col. 1)

NEW YORK CITY—In the first of the series of preview meetings for distributors introducing the new Carrier packaged air conditioner, John M. Bickel, vice president of the company, came up with some interesting sales figures on the past, present, and future of the market.

Since 1932, Carrier Corp. has produced 160,000 packaged air conditioners of 1½ hp. and up in size, for all types of applications (commercial, residential, and industrial).

Bickel says that according to the best figures it has been able to develop, Carrier has sold one out of five of all the packaged commercial conditioners produced, which would put the total sold by the entire industry at around 800,000 units.

Following are some "growth figures" on the packaged commercial air conditioner, according to the data presented by Bickel:

In 1938, the industry produced some 2,000 packaged units; in 1940, nearly 6,000; in 1945, about 14,000. In 1950, sales of the packaged commercial units had reached 50,000 units; in 1955, the total will

(Concluded on Page 4, Col. 5)

RCA-Whirlpool Offers New Room Unit

ST. JOSEPH, Mich.—What is claimed to be the first room air conditioner with an electronic filter and heater for year-round use was announced last week by the newly-formed Whirlpool-Seeger Corp.

The window-type air conditioner was described by John W. Craig, vice president and director of merchandise development, as the pioneer product resulting from the merger among Whirlpool Corp., appliance divisions of Radio Corp. of America, and Seeger Refrigerator Co.

The new air conditioner will be marketed under the trade name "RCA-Whirlpool" and backed by national advertising. Demonstration models have been

(Concluded on Page 4, Col. 5)

Copper Prices Take First Move Down

NEW YORK CITY — Some copper prices took a downward trend last week, reversing the upward trend in 1955. Custom smelters cut their price 4½ cents per pound.

Reason for the cut was said to be resistance of buyers to the higher prices, plus a fear that aluminum producers are moving into markets hitherto held exclusively by the copper industry.

The price by domestic pro-

(Concluded on Back Page, Col. 1)

Estimate 176,000 Auto Air Conditioners Installed In '55

DETROIT — Completely confounding, and astoundingly amazing practically all the automotive marketing experts, approximately 176,000 air conditioners were installed in personal automobiles during 1955. (For the first time, AIR CONDITIONING & REFRIGERATION NEWS reports substantiated figures on this field.)

G-M, Ford, Chrysler, American Motors, and Studebaker-Packard officials had guessed that maybe 60,000 auto purchasers would go for air conditioning in their private vehicles. Their combined wrong appraisals were the Bum Guess of the Year.

That's why independent producers and installers of auto air conditioners "stole the show." Independents like ARA, Frigikar, and Novi—plus many other localites—moved in to fill this vacuum.

True, Frigidaire possibly was the largest producer of factory-installed equipment. But independents, in the bulk, were a

(Concluded on Back Page, Col. 1)

Omaha Considers Water Curbs For Cooling Use

OMAHA, Neb.—Regulation of the use of water for air conditioning is being considered by directors of the Omaha, Neb. metropolitan utilities district.

This was disclosed at a meeting here last month at which the directors appropriated $1,528,000 for planning and construction of additional water supply facilities.

General Manager Ralph H. Trester told the board that air conditioning was responsible for water consumption in Omaha reaching levels which had not been expected until the 1960's. He said air conditioning installation without water saving devices accounted for 20 million to 30 million gallons a day during peak periods.

The district's directors then served notice that control of use

(Concluded on Page 4, Col. 4)

Freimann Named To York Post

YORK, Pa.—Andrew C. Freimann was named vice president in charge of marketing for the York Corp. by the board of directors, according to Stewart E. Lauer, president.

Freimann

A graduate of the University of Detroit in 1927, Freimann started his career as a sales engineer with the Frigidaire Div. of General Motors.

In 1948 Freimann with appointed general sales manager of General Motors Delco Appliance Div. involving the distribution

(Concluded on Page 4, Col. 5)

Announce Program For ARW Meeting

COLUMBUS, Ohio—Program for the 20th anniversary meeting of the Air Conditioning & Refrigeration Wholesalers on Nov. 27 and 28 in the Claridge hotel, Atlantic City, was announced recently by Starr Hull, executive secretary of the association.

Hull also announced that the manufacturers relations committee and the finance committee will meet at 4 and 8 p.m., respectively, on Friday, Nov. 25. The board of directors will meet all day Saturday.

A "Get-Together" with square dancing will be staged in Trimble Hall at the hotel at 9 p.m. Saturday. Manufacturers, their wives, and guests are in-

(Continued on Page 2, Col. 5)

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To Be SURE of Satisfaction

Be SURE to Specify

READING COPPER TUBING

FOR REFRIGERATION & AIR CONDITIONING EQUIPMENT

READING COPPER TUBE

READING TUBE CORPORATION

EMPIRE STATE BUILDING NEW YORK 1, N. Y.

WORKS: READING, PA.

Army Asks More Water for Nation

CINCINNATI—Warning that the nation "can no longer tolerate piecemeal, inadequate water resources planning," Lieut. Gen. S. D. Sturgis, Jr., chief of the Army Engineers, recently asked for Federal legislation to blueprint an "adequate water supply for the future."

Addressing the Ohio Valley Improvement Association, he pointed out that industry uses eight times as much water as it did in 1900. He said that by 1975, industry may use two and a half times more than it does now.

The ever-increasing standard of living calls for constant increases in water for air conditioning, sanitation, recreation, and pollution abatment, Gen. Sturgis stated.

He said the nationwide demand for more and more water, coupled with constantly diminishing natural underground supplies, makes it imperative that the nation formulate plans to assure an adequate supply of water for tomorrow.

Atomic Lab To Get Year-Round System

LOS ANGELES—The Atomic Energy Commission's new Radiation Laboratory, Cyclotron Site, the University of California at Berkeley, will make use of year-round air conditioning equipment, according to Drayer-Hanson, Inc.

The company said its HH-Series type of ceiling-suspended air handling equipment has been selected to do the job. The order originated from the company's San Francisco factory representative, E. C. Cooley Co.

ARW Meeting--

(Concluded from Page 1)

vited to this affair. They are also invited to attend the Kick-off luncheon, officers' reception, and anniversary banquet on Sunday.

The convention program is as follows:

SUNDAY, NOV. 27, 1955

10 a.m.—Registration (Promenade Section of Mezzanine).

12 noon—"Kickoff" Luncheon (Trimble Hall). Keynote address — "Heat, Light, and Power," Major Norman Imrie.

2 p.m. — Business meeting (Trimble Hall). Officers' reports. Election.

3 p.m. — "What Would You Do?" Committee meetings. Committee reports.

5 p.m.—Adjourn.

6:30 p.m.—Officers' reception (Park Lounge).

7:30 p.m.—Anniversary banquet (Trimble Hall). Presentation of awards. Entertainment.

MONDAY, NOV. 28, 1955

8 a.m.—Registration (Promenade Section of Mezzanine).

9 a.m.—Symposiums (Trimble Hall, Board Room, East Room, and West Room).

10 a.m. — Business meeting (Trimble Hall). "Industry Outlook for 1956," George S. Jones, Jr., managing director, Air-Conditioning and Refrigeration Institute.

10:30 a.m.—Reports.

11 a.m.—TV Problem Analysis.

11:45 a.m.—Address by Incoming President.

12 noon—Adjourn.

Brunner-refrigerated tunnel speeds food freezing in New Zealand

Brunner Refrigeration Condensing Units operate at peak efficiency in any corner of the globe!

Here's a Brunner installation in a freezing tunnel at Motueka, on the South Island of New Zealand, where the frozen food industry is enjoying rapid growth.

Two WF-25000-FL Brunner Condensing Units (at right in photo) provide the refrigeration for this tunnel, which has a freezing capacity of 1500 lbs. of vegetables per hour.

Except for a pre-cooling section and a smaller tempering section, tunnel is lined on each side, from floor to ceiling, with direct expansion coils. Eight axial flow fans reverse direction of air flow in each section, with air passing horizontally across packaged vegetables stacked on steel frame trucks.

This unusual installation is typical of Brunner flexibility. There's a right type and size of Brunner Condensing Unit for every refrigeration job . . . regardless of where the job may be!

BRUNNER MANUFACTURING CO. Dept. A-1035 UTICA, N. Y.
The Brunner Co., Gainesville, Ga.
In Canada: Brunner Corp. (Canada) Ltd., Toronto, Canada

50th Anniversary BRUNNER SINCE 1906 DEPENDABLE

BRUNNER SINCE 1906

refrigeration

Peerless Products To Open Plant for Cooling Towers In Nov.

LITTLE ROCK, Ark. — A plant for the manufacture of steel draft-type cooling towers used in air conditioning and light industrial equipment will be opened in North Little Rock about Nov. 1 by Peerless Products Div. of United Cooling Towers, Inc., according to R. D. Elgin, vice president of the company.

Located at 1421 E. Washington Ave., the plant will employ about 25 workers in the manufacturing process and 10 administrative and office workers. The building has a floor space of about 20,000 sq. ft. and office space of about 2,000 sq. ft.

Peerless Sales Co. of Little Rock merged with United Cooling Towers last January after the two firms had been associated for two years, it was pointed out.

The company also owns a plant at Pilot Point, Texas, that will produce large units for industrial users. Formerly, all production of the smaller units was through contracts with manufacturing plants.

The North Little Rock plant will make about 22 of the self-contained units a day at the beginning of the operation. The plant will manufacture all the parts except the pumps and motors.

For more information about products advertised on this page use Information Center, page 28.

Toledo Utility Drops Sale of Appliances

TOLEDO—Toledo Edison Co., which has been selling electric appliances for 42 years, is discontinuing its merchandising program, John K. Davis, vice president and assistant general manager, announced.

Direct selling of appliances by the utility will continue only until the present stocks are exhausted, but the company will continue to promote appliance sales through a cooperative program with dealers and distributors in northwestern Ohio, Davis said.

During recent years there has been a marked change in the position of electric utilities in the appliance field, Davis said. More and more electric utilities are going out of the direct selling field as the number of appliance dealers increases.

Senator Seeks Safety Latch Standard

WASHINGTON, D. C.—Rep. Kenneth Roberts (D., Ala.) reported recently that a set of criteria for safety devices on refrigerator doors has been drafted by the National Bureau of Standards.

According to Roberts, the bureau now will give the National Electrical Manufacturers Association an opportunity to express its views on the drafted standards.

He said it is expected that criteria acceptable to both will be agreed upon prior to the end of the year and will be made available for study by suppliers and manufacturers generally.

Roberts said it's hoped that industry will continue to cooperate and will manufacture a safety device without enactment of law. If not, he will ask Congress to pass his bill requiring that all refrigerators shipped in interstate commerce be equipped with a safety device, he said.

Since hearings were held earlier this year on his bill, five more children have suffocated in refrigerators, Roberts noted. He added that local ordinances and publicity campaigns have failed to halt the increasing number of such deaths.

RIGID

under heaviest loads...

FREEZER SHELVES literally groan when the woman of the house starts "packin' in supplies"—but Houdaille-Hershey STEEL shelves stay put, remain rigid, and won't sag! Smooth plate shelves are easiest to clean, and heat transfer is fast under heavy freezer loads!

NOTE: Ask about Houdaille *natural-draft* condensers for upright freezers.

TUBE-ON-PLATE construction is not only the most durable freezer shelf, but is most practical from the standpoint of engineering simplicity and flexibility in design. Houdaille manufactures to your specs.

STEEL
FREEZER SHELVES

by

HOUDAILLE*-
HERSHEY

ON ALL COUNTS, steel is ideal for upright freezer shelves. Obvious end-use benefits of strength and trouble-free service are matched as well by Houdaille's advanced manufacturing techniques—reducing costs to you. Thanks also to the workability of STEEL—scrap losses in fabricating, shipping, and final assembly are practically eliminated. Further economies result from clean refrigerant passages achieved through controlled-atmosphere furnaces used in the brazing process. No extra cleaning necessary!

Electro zinc plating provides a highly ductile, durable basic metal protection. A new type Du Pont finish far surpasses established standard test requirements.

Cool pastel colors, also available, represent a definite sales advantage in showroom display.

Call us now. Our Complete Engineering and testing facilities are at your disposal.

**Say "Hoo-dye"*

since 1929

HOUDAILLE-HERSHEY REFRIGERATION DIVISION

1900 FOSS PARK AVENUE . . . NORTH CHICAGO (GREAT LAKES), ILLINOIS

MANUFACTURERS OF Evaporators, Cabinet Cooling Plates, Freezer Shelves and Condensers.

Emerson Names--

(Concluded from Page 1, Col. 2)

firms. Immediately prior to joining Emerson, he was general sales manager of Remington Corp., manufacturer of air conditioners.

In 1948, he became national sales manager of the Refrigeration-Appliance Div. of Fedders-Quigan Corp. In 1952, he was named general sales manager of the Appliance Div. of Servel, Inc.

Advanced Opens Warehouse

PITTSBURGH — William Bradley, president of the Advanced Heating and Air Conditioning Co., has announced the opening of an office and warehouse at Penn Ave. The company specializes in domestic and commercial air conditioning and heating.

G-E Home Conditioner Sales Meetings Set

BLOOMFIELD, N. J.—General Electric Co.'s Home Heating & Cooling Dept. will present its plans for 1956 at a series of sales meetings with leading G-E distributors during October and in November.

The meetings will be held at two locations—the Wigwam, Litchfield Park, Ariz., and the Homestead, Hot Springs, Va.

Meetings will be held in Litchfield Park on Oct. 21-22 for distributors from California, Utah, and Washington; on Oct. 24-25 for those from Louisiana, Texas, and Tennessee; and on Oct. 27-28 for those from Illinois and Missouri.

Conferences will be held in Hot Springs on Nov. 10-11 for distributors from Georgia, Washington, D. C., North Carolina, and Virginia; on Nov. 14-15 for those from Ohio, Michigan, western Pennsylvania, and Kentucky; on Nov. 17-18 for those from New Jersey and New York; and on Nov. 21-22 for those from New England and eastern Pennsylvania.

Host will be the top management group from Bloomfield, as well as G-E field regional mgrs.

J. K. Noel, Sr. Dies

HAGERSTOWN, Md.—J. K. Noel, Sr., vice chairman of the board of directors and chairman of the executive committee of Victor Products Corp., died Oct. 10 following a month's illness.

Noel had served Victor in an official capacity for over 35 years and under his leadership the company has become an important factor in the refrigeration field.

Surviving are seven children, including his son, J. K. Noel, Jr., Victor's vice president in charge of sales.

Heat-X Names Barker General Manager

BREWSTER, N. Y.—Heat-X, Inc., a wholly-owned subsidiary of Bush Mfg. Co., has announced the appointment of Perley K. Barker as general manager.

P. K. Barker

Barker received his engineering training at the United States Diesel Engineering School and Wentworth Institute in Boston. He acted as refrigeration supervisor for the A & P Tea Co., Boston and Providence units prior to 1942 when he entered the U. S. Navy and served overseas first as a Refrigeration Technician and later as a Chemical Warfare Specialist.

In December, 1945, he resumed his duties with A & P, having charge of refrigeration for the New England Div. until joining the Bush, Heat-X organization in 1951 as sales engineer covering the northern New England territory.

Barker is an active member of the American Society of Refrigerating Engineers.

Omaha Water Use-

(Concluded from Page 1, Col. 4)

of water in air conditioning "is coming." They discussed a demand fee for users of air conditioning units which use water, in addition to the usual water charges.

A fee of $40 a ton a year was under consideration.

While there was some sentiment expressed for regulations to ban use of air conditioning systems that did not have water saving devices, indications were that the fee plan would be given preference.

Those owning water-using systems without water-saving devices would be given time to convert them, before the fee was imposed.

The directors publicly advised that those considering the installation of new air conditioning systems should contemplate the inclusion of some form of water-saving device in such installations.

RCA-Whirlpool--

(Concluded from Page 1, Col. 3)

delivered to distributors. The 1956 line will be available to consumers after Jan. 1.

Culmination of more than two years' research by RCA, the electronic filter in combination with the heater will mean greater comfort for users in every season, Craig predicted.

And the dual purpose filter-heater will be an important factor in maintaining air conditioner sales throughout the year, Craig asserted.

It is claimed that the filter has a capacity for absorbing three times more impurities than ordinary mechanical filters, and thus will be valuable to hay fever sufferers and to persons allergic to dust and molds.

The air conditioner cleanses air by drawing it through an electronically charged mat which captures lint, pollen, and dirt—even particles as tiny as 1/25,000ths of an inch in diameter, it was stated.

The heater in the air conditioner's intake provides for warming cold outside air drawn into apartments, home, or business office for circulation in winter.

Packaged Unit Sales--

(Concluded from Page 1, Col. 3)

probably be about 80,000, and in 1956 it should go over 100,000.

The packaged commercial air conditioner was designed originally for direct discharge, in-the-space installation, Bickel said, but by 1953, 60% of all packaged commercial equipment installed by Carrier was being used with duct systems, the Carrier official declared, and by 1955, that percentage had increased to 70%.

Freimann--

(Concluded from Page 1, Col. 4)

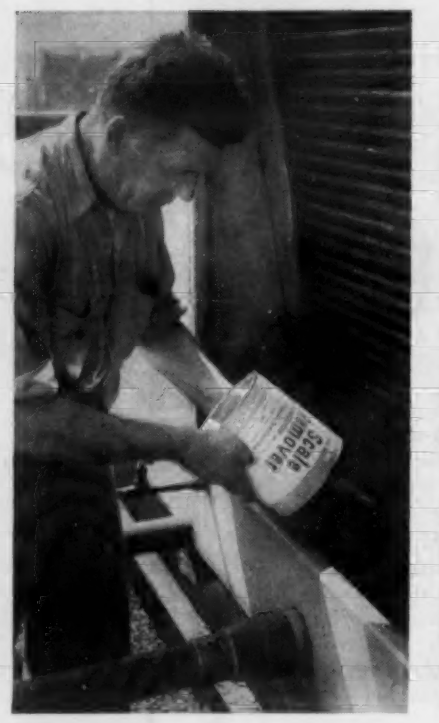
of Delco Heat, water pumping system for farm and suburban use, and small motors for household appliances.

His major career with General Motors has been spent in top management positions in marketing, distribution, and organization, especially in the heating field.

GET 'EM CLEAN & KEEP 'EM CLEAN

Use Calgon's BIG 3 to lick cooling tower water troubles

You don't have to put up with scale or other water troubles that commonly occur in cooling water systems. **Calgon's BIG 3 water treatment products** can get you out of trouble, and keep you out of trouble for good.

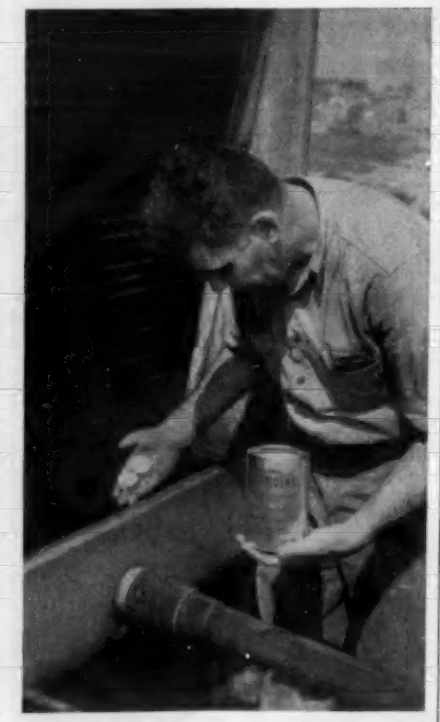


Use Calgon Scale Remover to GET the system clean!

Calgon Scale Remover is the safest material you can use to get a recirculating water system clean. It has a corrosion inhibitor to protect the system while in use. A built-in Ph color indicator guides proper application and tells you when you have used enough to get the system clean.

Use Micromet Plates to KEEP the system clean!

Micromet Plates provide continuous treatment to prevent further scale formation. A single charge will last up to six months, and the inexpensive feeding bag needs no costly plumbing installation. Recommended by many equipment manufacturers to inhibit scale formation and keep equipment efficiency high.



Use Calgon Algaecide to control slime growths!

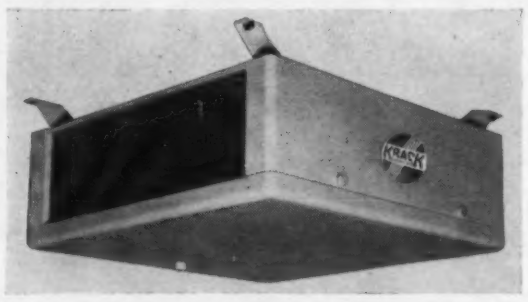
Calgon Algaecide comes in pellet form, is easy to use, and is non-corrosive to equipment. Positive action stops bacteria and slime growths, keeps equipment clean.

calgon, inc.

A SUBSIDIARY OF HAGAN CORPORATION

HAGAN BUILDING, PITTSBURGH 30, PA.

KRACK STRAT-E-FEX HIGH EFFICIENCY UNIT KOOLERS



Uniform Temperatures, Correct Humidity and Circulation for Protection of Perishables, 150 to 1700 BTU/hr.

Krack engineering and best quality components assure life-long trouble-free performance. Low velocity. Attractive appearance. Compact space-saving refrigeration. Certified capacity ratings.

SEND FOR BULLETIN, giving high efficiency features and specifications.

Pioneers in refrigeration and air conditioning. Since 1931

KRACK REFRIGERATION APPLIANCES, INC.

901 WEST LAKE STREET
CHICAGO 7, ILLINOIS

For more information about products advertised on this page use Information Center, page 28.

Servel Expands Commercial Div.

EVANSVILLE, Ind. — The initial phase of a program to expand and streamline operations in the commercial refrigeration division of Servel, Inc., has been announced by John R. Morrill, vice president and general manager of the division.

Factory offices of the sales, advertising, and service sections have been consolidated with production management in a larger area known as Plant 6.

"The relocating of the division offices guarantees much closer coordination between all departments in our new and expanded operations," Morrill said.

Management personnel involved in the shift to the new quarters include Morrill, John F. Zubrod, product manager; A. G. Wirick, manufacturing manager; O. B. Lance, advertising and sales promotion manager; George S. Eager, service manager; J. W. Downen, assistant service manager; H. C. Preher, chief applications engineer; and R. J. Gerard, Jr., production control manager.

Servel's 1956 line of condensing units and power units for commercial refrigeration and air conditioning will be introduced at the Air Conditioning and Refrigeration Institute exposition Nov. 28 to Dec. 1 in Atlantic City.

Serfass, R. Lauer Are York Directors

YORK, Pa.—Directors of York Corp. at a recent meeting elected R. K. Serfass and R. F. Lauer new directors, according to Stewart E. Lauer, president.

At the same meeting, the resignations tendered by E. A. Kleinschmidt and C. A. Olsen as directors were accepted.

Both Serfass and Lauer, each with over 23 years of continuous service, spent their entire career with York, hold degrees in mechanical engineering, are graduates of York's student training course, and have filled assignments in the field and at the factory in positions of increasing responsibility in engineering, sales, and sales direction.

Serfass' career began with an assignment in New York City, Newark, and Rochester areas of the north Atlantic district as a sales engineer. Later he was made manager of industrial sales of the entire district.

In 1949 he moved to York as assistant general sales manager, occupying that position until 1954 when he was named general sales manager and made a vice president of the corporation.

A year ago, when York divisionalized its operations, Serfass was appointed manager of its Industrial Div., retaining his office of vice president.

Lauer, beginning his career as a sales engineer in the Philadelphia district, later was made manager of York's National Service Office, Washington, D. C. Next appointed manager of the Pacific district, he was moved to York in 1951 as vice president in charge of engineering and research. Recently he also was made assistant to the president.

ARI Names Bergheim Technical Secretary

WASHINGTON, D. C. — Joe H. Bergheim, mechanical engineer formerly at the nylon plant of the Du Pont Co. at Seaford, Del., has been named technical secretary of the Air-Conditioning and Refrigeration Institute.

He succeeds John R. Schreiner, who joined Carrier Corp.

As technical secretary, Bergheim will serve as coordinator of the various engineering and standards committees of the Institute and as technical advisor.

Local RSES Hears Lincoln

SAGINAW, Mich. — Al Lincoln, sales engineer with Bush Mfg. Co. and Heat-X, Inc., was guest speaker at the September meeting of the Northeastern Michigan chapter of RSES held at J. Geo. Fischer & Sons, Inc. here.

Tyler Will Manufacture Champion Venders In Cobleskill Plant

NILES, Mich.—Tyler Refrigeration Corp. has entered the vending machine field as the manufacturer of products sold by the Champion Vender Co. formerly of Hopkins, Minn. and now of Niles, it was announced by Robert L. Tyler, Jr.

Principal Champion products are coin-operated selective merchandise venders for bottled beverages and milk.

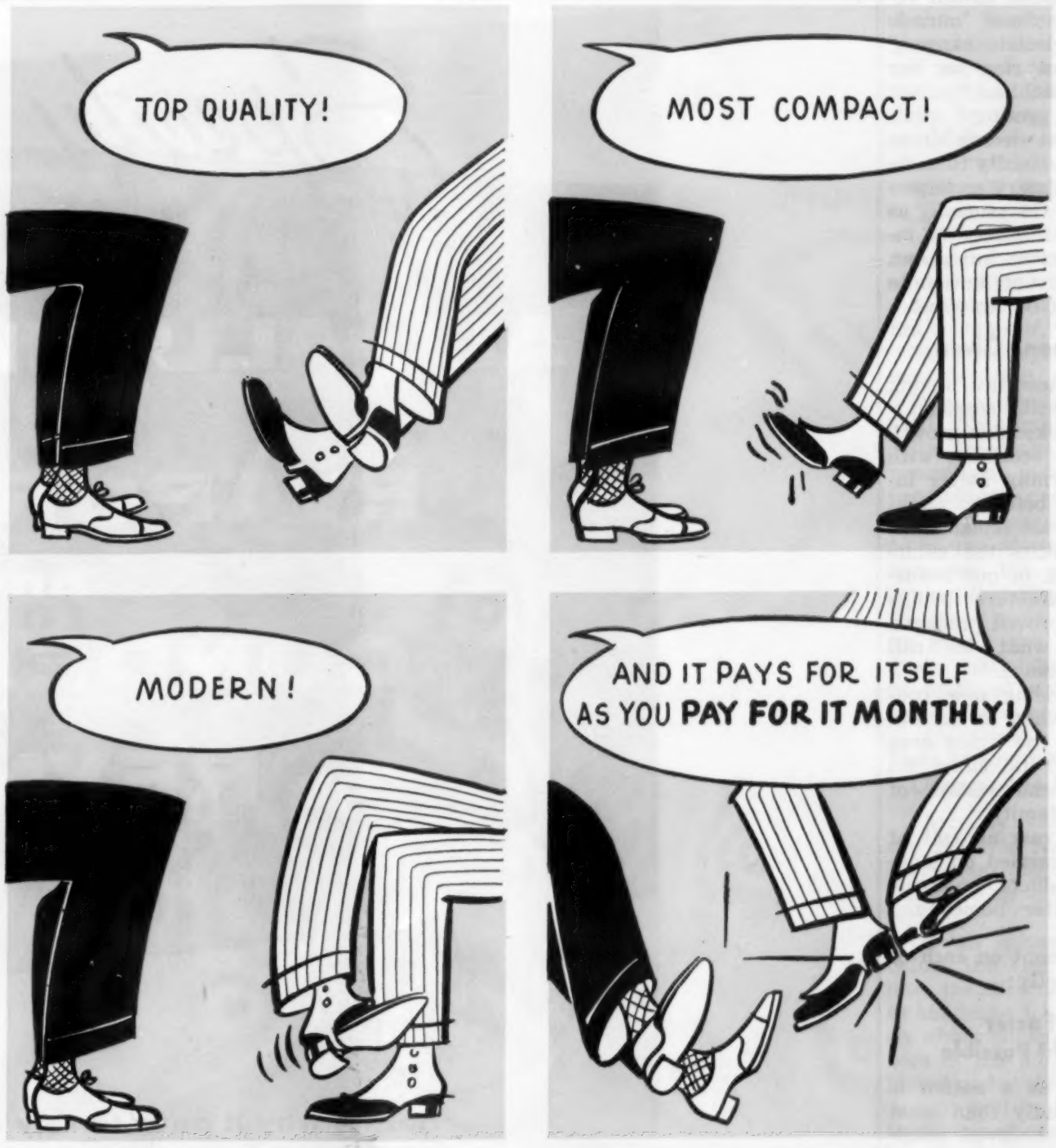
The two companies have entered into an association whereby Tyler will handle the manufacturing and financial phases, and the Champion sales organization will continue to function as before.

Robert L. Tyler, Jr. will represent Tyler in the Champion management and Eugene H. White will remain as general sales manager.

Tyler said Champion's selective vending machines and other anticipated new products will be manufactured in the Cobleskill, N. Y. plant of Tyler.

Tyler also manufactures a full line of refrigerated Sales-Cases, walk-in coolers, and storage freezers for food stores, restaurants, hotels, institutions, etc.

NEW MODEL Champion vender is inspected by Robert L. Tyler, Jr. (left), who will represent Tyler in Champion management, and Eugene H. White, general sales manager of Champion Vender Co.



Selling takes time—
Time makes selling easy!

To CLINCH more sales in less time, quote a *monthly payment*, not a *total cash price*. Many of your prospects need their working capital and usual lines of credit for current operations. No matter how much they need your equipment, they probably won't sign your order *now* unless you show them a convenient, practical way to pay. That's the COMMERCIAL CREDIT PLAN way. When can we tell you our story? Phone our office in your city or write: COMMERCIAL CREDIT CORP., 14 Light Street, Baltimore 2, Md.

COMMERCIAL CREDIT PLAN

COMMERCIAL CREDIT CORPORATION

A service offered through subsidiaries of Commercial Credit Company, Baltimore... Capital and Surplus over $180,000,000 ...offices in principal cities of the United States and Canada.

Automation In the Home

Kyes Predicts Boom In Home Air Conditioning; 2-Refrigerator Families Foreseen Within 10 Years

DETROIT—Sixty per cent of American homes will be air conditioned by 1965 and annual sales of refrigerators and automatic washers will have increased by 1,000,000 units by the same year, Roger M. Kyes, vice president of General Motors, predicted recently.

Kyes, in charge of GM's Dayton, Household Appliance, and GMC Truck Group, spoke to newspaper, magazine, and radio and television station representatives who previewed 1956 Frigidaire products at the General Motors Technical Center.

Public announcement of Frigidaire's new appliances is scheduled for Nov. 14. However, Kyes, in his talk, did mention "the ice cube ejector in our refrigerators," the "new 'miracle filter' on our electric ranges," and "the control ring on our new washing machines."

Kyes told the group:

"Over the next decade or so we have the opportunity to make the appliance industry as important a factor in the economy as the automobile industry is today. But even more important, we can make a contribution to the homemakers of America.

4 Specific Reasons Given

"I make this assertion having in mind four specific reasons:

"First, the looked-for growth of our vigorous economy, with more people earning better incomes than ever before.

"Second, the vast replacement market that awaits the enterprising merchant in our industry as the manufacturer brings out new and improved products, thus creating what we call dynamic obsolescence.

"Third, the rising new concept of the kitchen as an important part of the living area in each home, its effect on kitchen design and number of appliances per family.

"Fourth, the vast amount of research being carried on looking to new products, and new concepts of better homes and better living.

"Let me comment on each of these points briefly:

Income Rising Faster Than Thought Possible

"Our income as a nation is rising more rapidly than most forecasters had believed possible a few years ago. Ten years hence American consumers may well enjoy a dollar and a half of income for every dollar they have today.

"This means that more and more consumer funds will be available for discretionary spending—more left over for comforts and conveniences. . . .

"I look for substantial increases in the sale of all household appliances. Specifically, I predict that by 1965 the industry will increase refrigerator sales by a million units a year, and automatic washer sales by approximately the same amount. Volume of electric dryers should more than double, that of dishwashers and food waste disposers more than quadruple.

"Truly dramatic forward strides will be made in home air conditioning.

Sees 60% of Homes Conditioned by '65

As of now, just about 2¼ million homes out of 50 million have some form of cooling or are air conditioned—less than five out of a hundred. By 1965 I expect 60 out of every hundred homes to be so equipped. There will also be millions of air conditioned automobiles on our highways by then.

Regarding his second point, Kyes explained that "dynamic obsolescence" is achieved by bringing out new and improved models every year, as the automobile industry does. This process, he explained, persuades the customer that "he is better off investing in the new product, compared to keeping his money in the savings bank and struggling along with the old."

General Motors and its Frigidaire Div. will seek to increase the replacement market, Kyes said, by improving products, stimulating people to become as interested in electrical appliances as they are in automobiles, and providing "a more orderly and satisfactory method for arriving at trade-in values of used products.

"Our method is based on a point system that will take account of the age and condition of the product to be traded in and other pertinent factors. The customer will be able to calculate along with the salesman, step by step.

New Trade-In Method

"This new trade-in method will furnish an accurate appraisal of the value of the used product in terms the customer can understand and even determine himself. We expect, by thus instilling customer confidence in the trade-in, the replacement market will be substantially stimulated.

"Incidentally, I see no reason why we should not have two-refrigerator families as well as two-car families. About ten million such families—not an unrealistic goal at all—should certainly add impetus to the market."

Frigidaire's latest contribution toward making the kitchen "an important part of the living area" is its recently-announced integrated kitchen, Kyes said—"pre-engineered, predesigned, pre-styled, and internally plumbed and wired."

In the field of research, Kyes said, "we have hardly begun to explore the possibilities for making the American home truly a good place to live in.

"We try to come up with new products that will do old jobs better and easier," he pointed out. "And we are contemplating new concepts of perfecting and integrating mechanized household services that would make existing appliances look crude by comparison.

"I think you will agree that with conveniences such as the 'thinking top' and the new 'miracle filter' on our electric ranges; automatic defrosting and the ice cube ejector in our refrigerators; the control ring on our new washing machines, and other such developments, we have made progress toward

(Concluded on next page)

Specify

ALL-ALUMINUM AIR EVAPORATORS and CONDENSERS by REYNOLDS

Here's why it pays to rely on Reynolds Aluminum Fabricating Service for producing air conditioner parts

Reynolds wide experience in refrigeration as one of the nation's leading producers of parts for this industry has pointed up the advantages in air conditioner evaporators and condensers made entirely of aluminum. This experience—plus Reynolds facilities and quality control from mine to finished product—assures production of all-aluminum evaporators and condensers to quality standards exceeding industry requirements.

Reynolds engineers will be glad to work with you in designing aluminum parts for your present or future air conditioner models. For full details, contact the Reynolds office listed under "Aluminum" in your classified telephone directory or write *Reynolds Aluminum Fabricating Service, 2053 South Ninth Street, Louisville 1, Kentucky.*

See Reynolds New Program "Frontier"—Sundays on NBC-TV.

REYNOLDS ALUMINUM

BLANKING • TUBE BENDING • STAMPING • DRAWING • RIVETING • ROLL SHAPING

For more information about products advertised on this page use Information Center, page 28.

Rapid Product Changes To Aid Boom--

(Concluded from preceding page)

emancipating the housewife.

"But I am convinced we are going to proceed much faster toward that goal. In fact, we believe we are on the eve of a major breakthrough.

"For example, we have long had central heating. Why not central refrigeration, including a fur storage closet, a refrigerated cabinet for cosmetics?

"Or take today's refrigerators. Though much improved, they contain the same basic components as those of 30 years ago. Future units may do away with the mechanical compressor and refrigerant.

"One promising possibility is a refrigerator that produces cold by electronic means—not a moving part in it. We are making progress on several other interesting types of systems.

"Electronics can be used to thaw as well as freeze. Frozen fruit, for example, can be ready to be served in seconds. . . .

"Soon it will be possible to close your windows in case of rain, by dialing your home number on the telephone. Or utilize automatic window closers sensitive to the first raindrop.

"Atomic irradiation is almost certain to play an important role in food preservation. It will not supplant, but supplement refrigeration, and could bring about big changes in food buying and storage habits.

"Food storage, by the way, can be put on a permanent revolving inventory basis. Your delivery man will automatically replenish your stocks, reading your requirements from a 'meter' attached to the outside of the house, just as your fuel oil dealer keeps your tank filled.

"We call today's washing machines automatic. But down the road we can visualize equipment that will convey, sort, clean, iron, and fold the laundry.

"As you know, water is a problem in many parts of the country. Substantial inroads on that problem could be made by the use of ultra high-frequency energy waves, particularly in dishwashing.

"And speaking of washing operation, what do you suppose our housewives would give for a system that would wash the kitchen floor, rinse and dry it, all automatically, in minutes? That is not such a wild dream as you might think, for I have seen it done."

Kyes foresaw even the possibility of a "fully autonomous house with its own source of power, atomic or solar; its own water and sewage disposal system independent of well or main; and, of course, facilities to make housekeeping all but effortless.

Mitchell Rebate Plan Protects Dealer Who Orders '56 Units Before Jan. 1

CHICAGO — Additional details have been made available on Mitchell Mfg. Co.'s new "Thirty on a Third Guaranteed Sales Plan" which the company announced recently in introducing its new line of 1956 room air conditioners.

As reported in the Oct. 10 issue of AIR CONDITIONING & REFRIGERATION NEWS, the plan offers dealers who purchase their units early a rebate of 30% on as many as one third of the units that remain unsold after July 27, 1956.

The program applies to all 1956 room air conditioners sold and shipped by Mitchell distributors between Sept. 1, 1955 through Dec. 31, 1955, according to E. A. Tracey, Mitchell general manager.

Elaborating on the plan, Tracey said:

"Suppose a dealer buys 90 units during what we will call the 'premium' period. And suppose he has sold 60 of those units by next July 25. Under the Thirty on a Third Guaranteed Sales Plan, Mitchell would refund the dealer 30% of his entire purchase price on those 30 unsold units.

"If he had only 15 units left, the dealer would receive a refund of 30% of his purchase price on those 15 room air conditioners, and so on.

"This means the dealer could deduct the amount refunded from his selling price and offer the unsold units to his customers at tremendous savings to them and large profits to him.

"Taking the same mythical dealer," Tracey continued, "let's place him in a highly theoretical position and say he hasn't managed to sell any of his 90 units by July 27. Even so he would receive a discount of 30% on one third of the unsold units, that is, 30 room conditioners.

"That amounts to a discount of 10% on all 90 of his units, a savings to him he can pass along to his customers in bargain prices with no loss in profits to himself."

Tracey explained the plan was designed with two major points in mind:

"1. To stimulate early season sales to dealers because such pre-season purchases effect a production economy for Mitchell.

"2. To guard Mitchell dealers from unpredictable industry occurences by protecting them against carrying unsold models from one year to the next and by giving the dealers an adequate markdown, with no loss of profit at a time that guarantees the sale of any inventory.

Fear of Inventory Changed to Hope

"Actually the plan changes the dealer's fear of inventory carryover into a hope that he will have an inventory at year's end."

On all shipments to dealers before the Dec. 31, 1955 deadline, the distributor will attach to his dealer invoice a certificate on which model and serial numbers of the units sold and protected under the plan are listed. A copy will be kept by the distributor and a second copy forwarded to Mitchell.

On the July 27, 1956 deadline, the distributor will conduct an inventory check among his dealers, and those who have unsold units bought under the plan will receive a 30% rebate on up to one third of those unsold units.

CONDITIONER
● Aluminum assures rapid heat transfer . . . aluminum fins and tubes provide fast, economical cooling.
● Aluminum won't rust . . . eliminates danger of rust causing unsightly stains below the outside of the window.
● Aluminum fins and aluminum tubing prevent bi-metallic action which frequently occurs when fins and tubing are made of dissimilar metals.
● Aluminum is light in weight . . . aids in portability and ease of installation.
● Aluminum offers excellent corrosion resistance . . . all-aluminum coils give higher efficiency throughout the life of the unit.
● Aluminum is strong and durable—gives years of dependable service.
● Aluminum is economical—aids in holding unit costs down.
See our Exhibit 9th EXPOSITION AIR-CONDITIONING AND REFRIGERATION INDUSTRY ATLANTIC CITY NOV. 28-DEC. 1 1955
FABRICATING SERVICE
FORMING • EMBOSSING • WELDING • BRAZING • FINISHING • IMPACT EXTRUDING

NAME PLATES

COMPRESSOR NO. 2

Specially manufactured for air conditioning and refrigeration requirements. Use these low-cost 2½"x¾" METAL name plates for labeling and identifying your installations. Over 100 standard refrigeration and air conditioning wordings available for immediate shipment. No minimum order required. Catalog and samples of metal and plastic name plates sent FREE on request.

Jobber Inquiries Invited

SETON NAME PLATE CO., Dept. A1
394 Central Ave., New Haven 15, Conn.

For more information about products advertised on this page use Information Center, page 28.

Inside Dope

By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1)

suming that where substantial price identity is found there must have been a conspiracy in fact.

"This is sometimes put in terms of saying that where competitors sell at about the same prices the result is the same as though there had been a conspiracy and that there must be some illegality.

"Any such theory is not only a calumny on American business, it is also a conclusion contrary to fact. It assumes without realism that the lower price level produced by competition would be identical with the higher price level produced by collusion.

"No one can assume—the lawyers prefer to say infer—that the competitive hammering of prices to a common level betokens conspiracy instead of competition, any more than the fact that most men wear collars and ties in the basis for a proper inference that they have conspired to do so. . . .

"The lawful conduct of one businessman may be made unlawful by the independent acts of his competitors over whom he has no control. This is no more realistic than to say that all of the citizens of one community are either righteous or criminal, depending upon what people in other towns in the same state might do."

Thought Starters

Many salesmen who have nothing to offer a prospect *except* friendship outsell too-serious salesmen who have everything to offer *but* friendship.—CHARLES B. ROTH.

"Don't sell me clothes. Sell me neat appearance, style, attractiveness.

"Don't sell me shoes. Sell me foot comfort and the pleasure of walking in the open air.

"Don't sell me an appliance. Sell me comfort, convenience, and contentment in my home.

"Don't sell me things. Sell me ideals, feelings, self-respect, finer home life, and the hope of happiness."—ANON.

"Put it before the readers briefly so they will read it, clearly so they will understand it, forcibly so they will appreciate it, picturesquely so they will remember it, and above all, accurately, so they will be guided by its light."—JOSEPH PULITZER.

Quotes of the Week

"The tendency of the times to socialize property rights under the subterfuge of police regulation is dangerous, and if continued will prove destructive to our free institutions. It should be remembered that of the three fundamental principles which underlie government, and for which government exists, the protection of life, liberty, and property, the chief of these is property; not that any amout of property is more valuable than the life or liberty of the citizen, but the history of civilization proves that, when the citizen is deprived of the free use and enjoyment of his property, anarchy and revolution follow, and life and liberty are without protection."—JUSTICE VAN ORSDEL, *Children's Hospital of the District of Columbia* v. *Adkins*, 284 Fed. Rep. 613 (1922).

"There are only a handful of things that actually have to be done in this world, and there is time for all of them. The trouble is that most of us get to doing so many things that we have no time to be anything."—JOAN YOUNGER.

"It is a bad mistake to say that there are only seven deadly sins. There are eight, and ingratitude is the first."—VOLTAIRE.

"In art follow the rules until you get your balance. Then throw them away and go where you please."—FRANKLIN I. JORDAN.

"The first four postage stamps issued by the Republic of Indonesia bore the portraits of Washington, Lincoln, Franklin, and Hamilton, side by side with the founders of the new republic. That is an instance of the moral authority we need to wield if our leadership of the free nations is to mean anything more than the wealth with which to buy allies."—LEWIS GALANTIERS.

"Individuals who belong to the aristocracies in question owe their special qualities not so much to the blood that flows in their veins as to the very particular upbringing, which has brought out certain intellectual and moral tendencies in them in preference to others.

"Among all the factors that figure in social superiority, intellectual superiority is the one with which heredity has least to do. The children of men of highest mentality often have very mediocre talents."—GAETANO MOSCA.

When a political party gets into debt it gives a series of hundred dollar dinners at which a dollar's worth of food is served to pay the debt. When a church gets into debt it gives a series of 35-cent dinners at which a dollar's worth of food is served.—*DePere* (Wis.) *Journal Democrat.*

What another would have done as well as you, do not do it. What another would have said as well as you, do not say it; written as well, do not write it. Be faithful to that which exists nowhere but in yourself—and thus make yourself indispensable.—ANDRE GIDE.

Knowledge is a comfortable and necessary retreat and shelter for us in an advanced age; and if we do not plant it while young, it will give use no shade when we grow old. — LORD CHESTERFIELD.

No ephemeral literature approaches in fascination a bookseller's catalogue. To receive one at the breakfast-table, skim through it with one's bacon and eggs, send off a postcard by the first mail for some long-sought rarity—or even a telegram if circumstances demand it—these are among the highest pleasures of life.—A. L. MUNBY.

You must be careful what books you give adults, for they may be corrupted; but children may read anything. I believe now that children, up to the age of sixteen, may read anything and everything. After that age their books should be carefully chosen.—GEORGE BERNARD SHAW.

MORE

manufacturers and installers

BUY PENN

THAN ANY OTHER

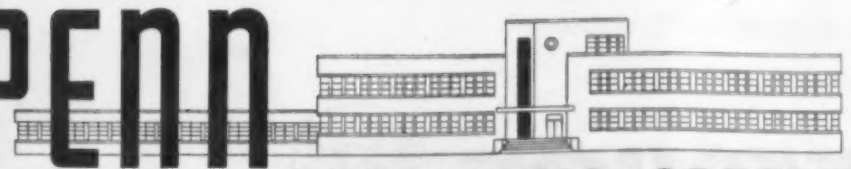
WATER VALVE

here are the reasons why...

- No valve chatter
- No water hammer
- Easy manual flushing
- No rusting of range spring
- No corrosion of sliding parts
- Highly sensitive yet accurate

Add up these reasons and you'll get one answer . . . Penn water valves *stay on the job longer!* And, it's an answer proven correct in hundreds of thousands of installations. Don't settle for something "almost as good". . . specify and install Penn water valves. Ask your wholesaler. **Penn Controls, Inc., Goshen, Indiana.**

PENN



AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, GAS APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

For more information about products advertised on this page use Information Center, page 28.

Airtemp Appoints Link and Peet to New Field Posts

DAYTON — Appointments of Ralph J. Link as assistant regional manager for the Philadelphia sales district and William H. Peet, Jr., as assistant regional manager for the St. Louis sales district have been announced by Airtemp Div., Chrysler Corp.

Link and Peet fill new posts established in conjunction with Airtemp's recently-disclosed expansion program.

For three years, Link has been district manager for the Philadelphia area. He has been associated with the sales division of Airtemp since 1950.

Peet most recently was Kansas City district manager for the company. Prior to joining Airtemp in 1952.

Air Conditioned, Windowless Bldg. Will Cut Original, Operating Costs

LOS ANGELES — Air conditioning will be a feature of Los Angeles' first windowless office building, designed for Western Mortgage Corp.

Sides and roof of the $1,250,000 three-story building fronting on a full block of Wilshire Blvd. will be perfectly free of openings of any kind with the exception of the front and rear entrance doorways and an especially designed filter orifice, according to Jack Irvine, president.

It will be located between Lafayette Park Pl. and Rampart Blvd.

Design and construction of the structure is being handled by two of Southern California's oldest firms in their fields—Claud Beelman & Associates, architects; and McNeil Construction Co.

The new home office will accommodate 250 employes who will be surrounded by floor-to-ceiling photo-murals depicting traditional southern California scenes.

The windowless construction will, according to Irvine, considerably lessen original costs, permit more economical operation of air conditioning systems, reduce cleaning and service time, and improve employe efficiency.

The Wilshire Blvd. and Rampart Ave. sides of the building will be covered with white Vermont marble in 4 by 5-ft. slabs of 350 lbs. each. In all, the building will contain approximately 45,000 sq. ft. of floor space.

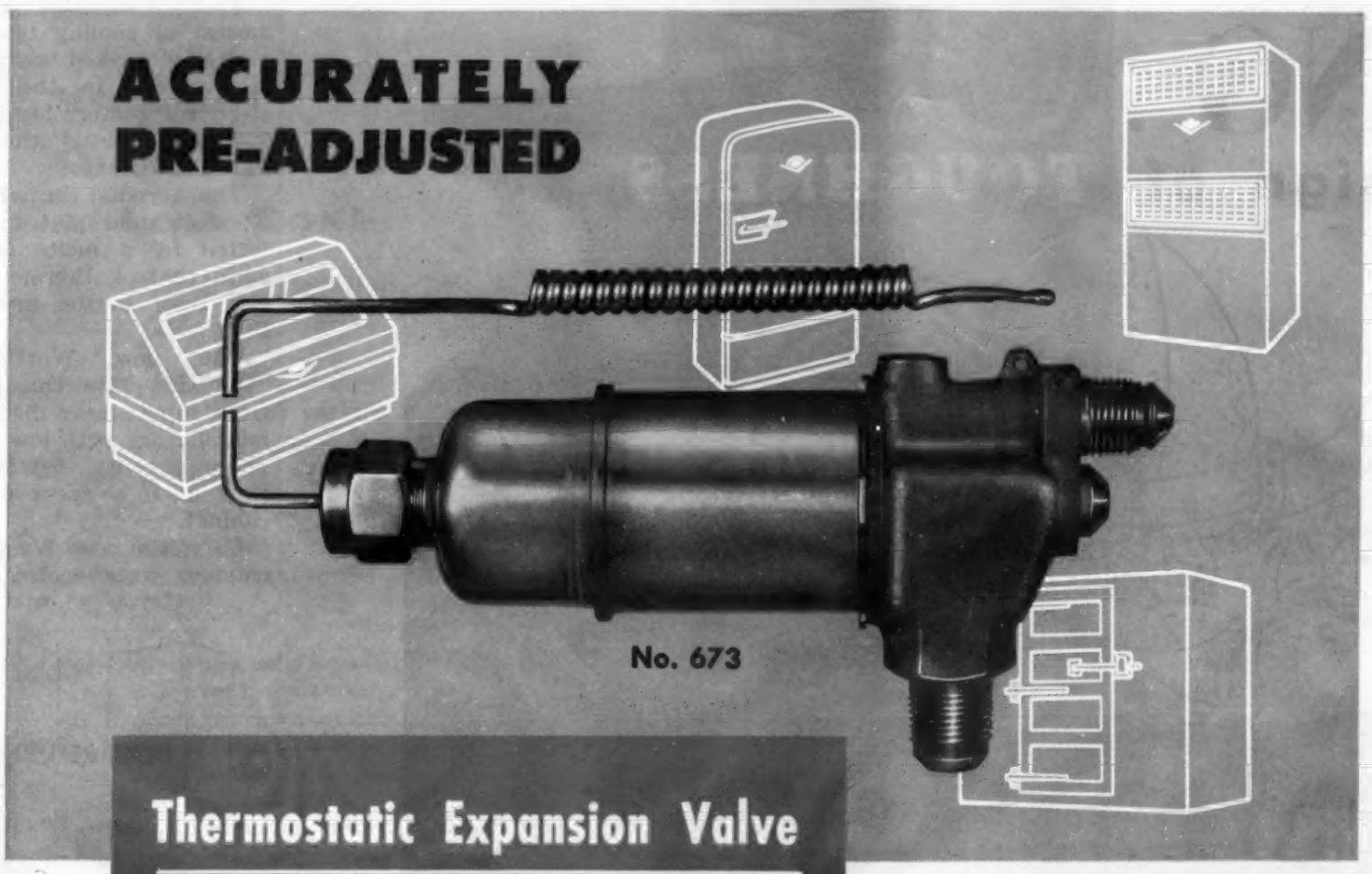
'Electronic Brain' Requires Own Conditioner

COLUMBUS, Ohio — A "medium-sized electronic brain" installed recently in Nationwide Insurance's building here requires its own air conditioner.

The electronic computer, known as the IBM 650, is located in a private room served by a special 5-ton air conditioning unit. The unit is necessary because the IBM machine puts out a great deal of heat. The front of the completely-enclosed room is clear glass so observers can see the machine.

Rome Building Gets Cooling

ROME, Ga. — The State Mutual Insurance Co. has begun the construction of an air conditioned new home office building here.



Thermostatic Expansion Valve
by Detroit Controls

Capacity: 1.3 to 3.6 tons Freon 12

THE STANDARD OF THE INDUSTRY! That's the reputation of this superior refrigeration valve. Its application is practically universal because of *constant superheat* regardless of suction pressure. The No. 673 Thermostatic Expansion Valve will control an air conditioning coil at high pressure, or an ice cream cabinet at low pressure.

The gas charged power element allows the evaporator to operate at 100% efficiency over a wide range of load conditions. It protects the motor against overload, assures quick balancing of the system when starting-up and gives instant, positive response.

Built to highest standards, No. 673 Valves are corrosion resistant and have long service life. Their broad range means a smaller inventory, less confusion.

Get full information and quick delivery from your Detroit Controls wholesaler. Write for Bulletin 82.

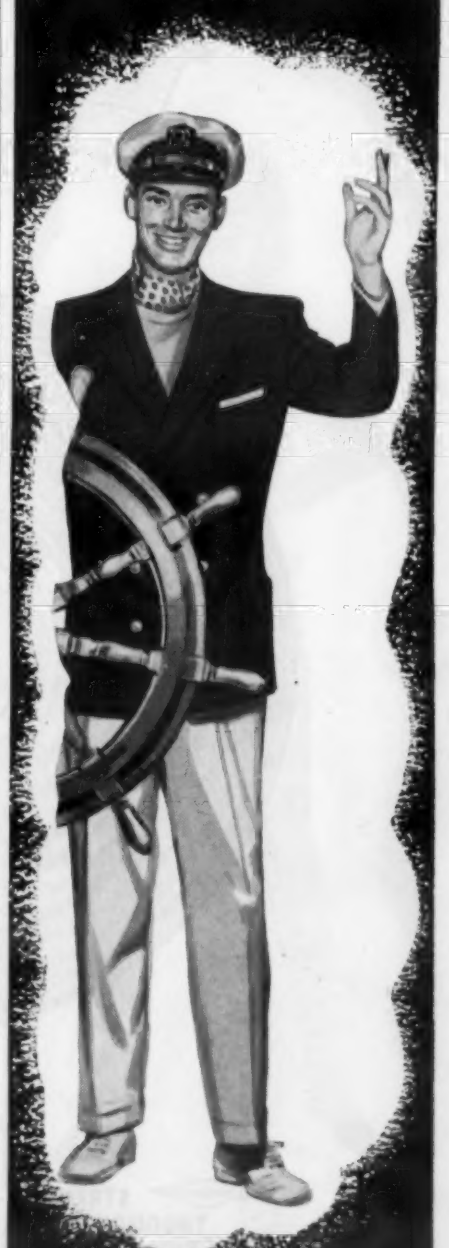
DETROIT CONTROLS CORPORATION manufactures a complete line for the refrigeration, air conditioning and heating industries.

DETROIT CONTROLS CORPORATION
8900 TRUMBULL AVE. • DETROIT 8, MICHIGAN
Division of AMERICAN RADIATOR & STANDARD SANITARY Corporation

Representatives in Principal Cities • Canadian Representatives:
RAILWAY AND ENGINEERING SPECIALTIES, LTD.,
Montreal, Toronto, Winnipeg.

AUTOMATIC CONTROLS for REFRIGERATION
AIR CONDITIONING • DOMESTIC HEATING • AVIATION • TRANSPORTATION • HOME APPLIANCES • INDUSTRIAL USES

what do air conditioning dealers dream about?



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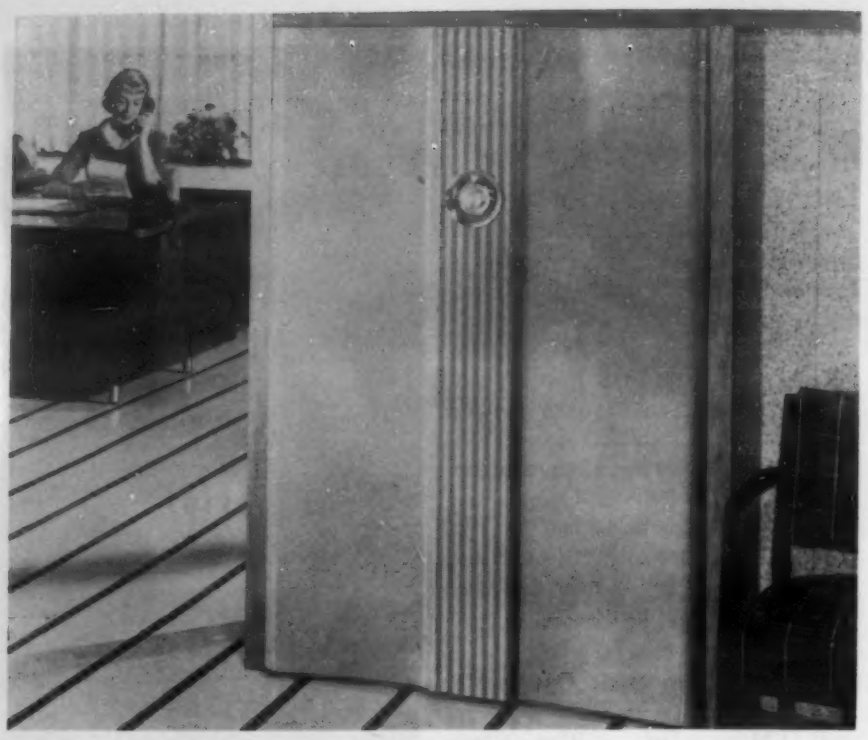


NEARLY THREE OUT of four installations can look like this—Carrier says its new self-contained "Weathermaker" is the first packaged unit designed specifically for central duct system air conditioning of commercial establishments.

New Package Unit Design--

(Continued from Page 1)

Carrier's new packaged Weathermaker offers a matching plenum and base accessory.

"Up to now," said Bickel, "the air conditioning industry has been making packaged units for what has become only 30% of its available market, turning out plenum models for in-the-space installations without ductwork.

"The biggest part of the market for self-contained units has been offered patched-up versions of cut-down plenum models.

"With the introduction of the new Carrier Weathermaker, this major market is offered an air conditioner that looks well with or without a plenum—one that may be installed without modification for ductwork."

If an installation layout calls for bringing in return air at sides or front, the Weathermaker's matching base accessory may be used, eliminating cutting and patching of the casing, as well as complicated ductwork arrangements that take up valuable space, Bickel said.

The dealer can bring air into the new unit in any of five ways —front, rear, sides, and, for the first time, through the bottom of the unit. There are no holes to open on the sides, no return air openings to block off the front.

This feature alone, Bickel estimated, will save dealers many hours of installation headaches and customers many thousands of dollars.

Other important dealer economies are effected in the unit's pre-wired electrical center. No extra internal wiring is necessary since all connections are made in one readily accessible junction box at the side.

FOR IN-THE-SPACE LOCATION, matching plenum and five-way-air-return base accessory are used with solid front panel on new Carrier unit.

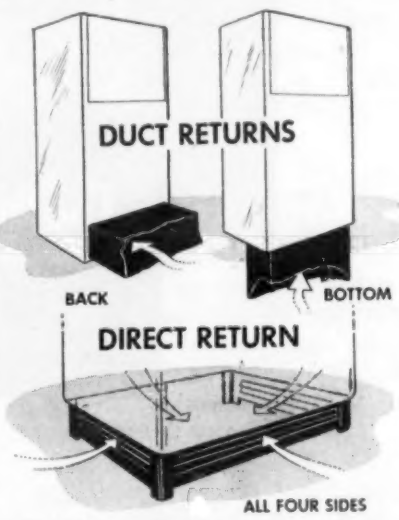
To interconnect a remote thermostat or cooling tower pump, a clearly marked terminal block is provided in the pre-wired electrical center, located inside the unit behind the "Golden Aerodial" control.

The Aerodial control center is 22-carat gold plated and protected by a lucite dome. The main control, thermostat knob, and reset button are included here.

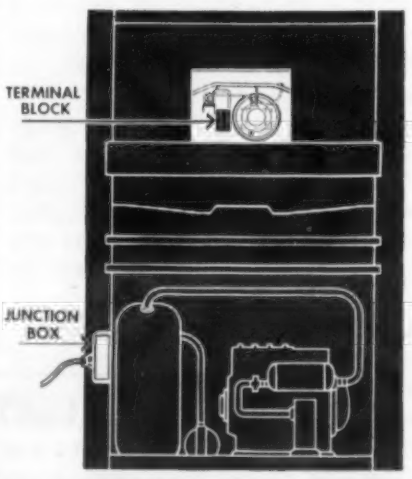
The new Weathermaker's "QT" fan also changes easily from top to rear discharge for installations with low headroom or to simplify installation. No time has to be spent altering the cabinet.

Carrier's new Weathermaker employs water-cooled refrigera-

(Continued on next page)



FIVE-WAY AIR RETURN—New Weathermaker is the first self-contained air conditioner designed to bring return air in at the bottom as well as at the back, front, and sides. Ductwork can be brought up through the floor directly to the bottom of the unit eliminating additional space requirements.



SIMPLIFIED WIRING—All electrical wiring and controls of the new packaged air conditioner are built-in at the factory to eliminate dealer costs of additional internal wiring during installation.

VIKING.. a sign of TOUGHNESS

...it's the quality that makes

VIKING COPPER TUBE *easy to handle!*

Webster defines "tough" as, *strong but pliant; that which will bend, twist, etc. without breaking.*

The Vikings were *tough*—they had to be to master the grim, cold stormy sea that was their world. The Vikings had a civilization that stands a monument to the will of mankind to live and progress under difficult circumstances.

And today in industry, the word "tough" is perfect in describing VIKING COPPER TUBING—the finest copper tubing ever manufactured for the commercial refrigeration and air conditioning industry. It is symbolic, too, of the men who make Viking copper tubing, resolute in their desire to create a tubing that will do the job better, faster and at lowest cost.

STRENGTH THROUGH ANNEALING

Viking copper tubing is annealed with precision uniformity in electric annealing furnaces. The uniform temper insures speedy, efficient, trouble-free fabrication and strength.

EASY TO BEND AND FLARE

Whatever the application, Viking copper tube makes the work go faster because it is easier to fabricate. Viking refrigeration tubing is soft and pliable—can be formed, flared and expanded quickly without danger of fracturing and splitting.

CLEAN AND DRY

Triple-sealed Viking tube avoids trouble before it starts—remains extremely dry and absolutely free of dirt. The seal is made to pass through any opening large enough for the tube itself.

Visit BOOTH No. 1304 9th EXPOSITION Air Conditioning and Refrigeration Industry NOV. 28, TO DEC 1, • ATLANTIC CITY

VIKING copper tube co.

CLEVELAND 10, OHIO

PRECISION DRAWN SEAMLESS COPPER AND ALUMINUM TUBING

For more information about products advertised on this page use Information Center, page 28.

New Weathermaker--

(Continued from preceding page)

tion and will be manufactured in sizes of 2, 3, and 5-hp., Bickel revealed.

Installations requiring greater water-cooled capacity can be handled by multiple units.

The new unit provides year-round filtered air circulation. All-season conditioning is obtained by a matched heating coil using any source of steam or hot water. The coil heats the same area the unit cools and may be added inside the Weathermaker without modification.

Carrier's 5-year Dealer Protection Plan will apply to the newest addition to its Weathermaker line, Bickel announced. The entire refrigeration system is covered in the plan.

The new "Humitrol," designed to provide greater regulation of humidity, extends across the full length of the cooling coils and is located in the front of the coil. The new control lever, which takes only one simple turn to operate, is recessed in the front left side of the casing.

CONTROLS OF GOLD—Gold has been chosen by Carrier to symbolize performance and special features of its new Weathermaker. Golden Aerodial control center with transparent lucite dome houses main control switch, automatic thermostat control, and reset button for restarting.

FEATURES OF "HUMITROL" design in new Weathermaker are pointed out by Harold H. Hopkins. The Humitrol design extends across the full length of the cooling coils and is located in front of the coil to provide greater regulation of humidity. The control lever is recessed in the left front of the casing for fingertip operation.

The pedestal is designed to match the new casing in style. It raises the Weathermaker from the floor to permit return air to come in the front or sides.

Chassis is built of heavy-gauge steel welded into a rigid cabinet. The surface is Bonderized, then coated with rust-resistant primer and finished in baked enamel.

For installations with low headroom, the fan can be changed to rear discharge. The L-shaped fan platform can be inverted, and no cutting or patching is necessary.

A high-impact, rustless polystyrene collector receiver serves as the condensate collector, receiving water at several points above the filter. It pulls out like a drawer for periodic cleaning.

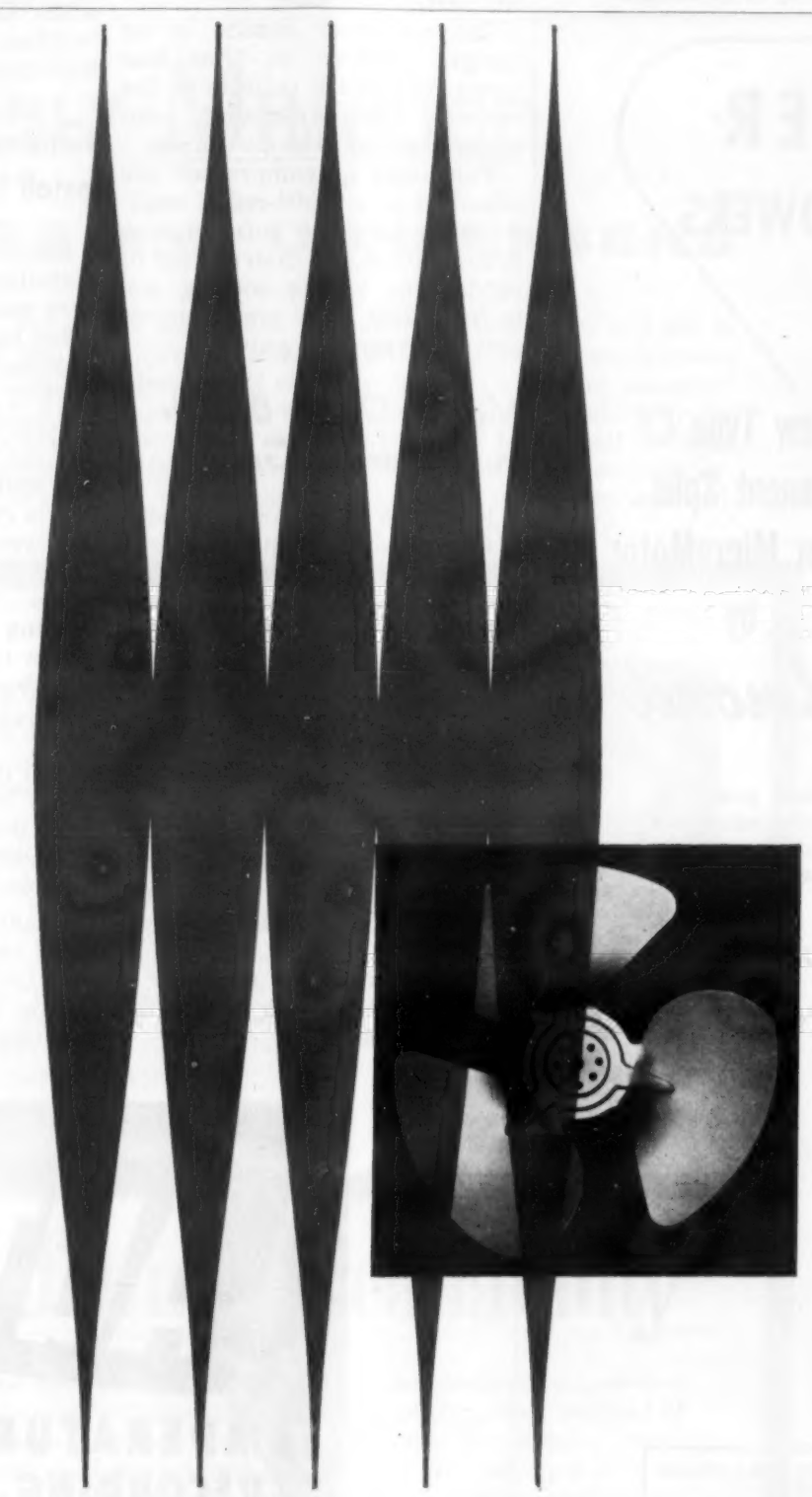
(Concluded on next page)

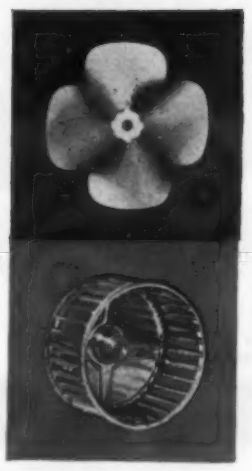
You Get Quiet Operation at Low Cost

...when you use Torrington's Extra-Quiet "LU Series" fan blade

Especially designed to give quiet operation in a wide variety of applications. The simple one-piece construction of the "LU Series" also makes it available at an unusually low price. Manufactured in 7¾"-8¾" and 10" diameters. Pierced for all unit-bearing motors.

Torrington's unusually broad product range and great manufacturing capacity can provide...quickly and at low cost...the fan blade or blower wheel that's best suited to your air-moving requirements.
Torrington also maintains a complete research and testing service to assist you in the solution of any design problem relating to air flow, sound or vibration.
No one has had more experience in the design and production of air impellers than Torrington. Nowhere else can your dollar buy so much in terms of product quality and customer service.





THE
TORRINGTON
MANUFACTURING COMPANY
TORRINGTON, CONNECTICUT
VAN NUYS, CALIFORNIA · OAKVILLE, ONTARIO

what do air conditioning dealers dream about?

(maybe)

Details of New Package Unit--

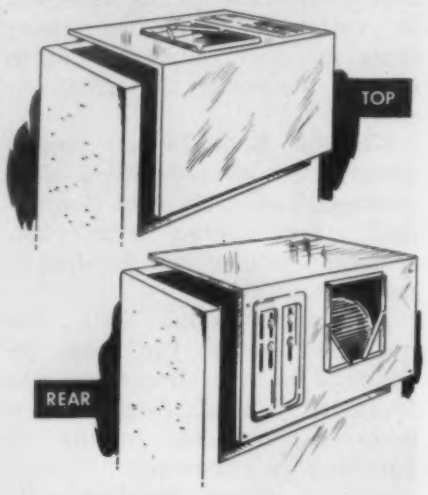
(Concluded from preceding page)

Either standard steam or hot water, or non-freeze steam coils may be added without alterations in the unit. They will heat the same area the unit cools. The heating coils fit just above the cooling coils to give the advantages of draw-through design.

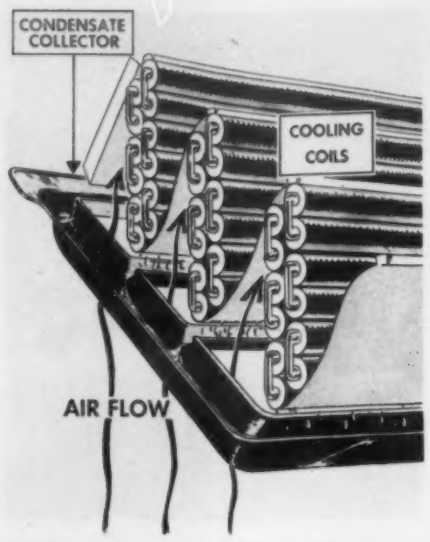
Two snap locks release the front panel so it can be quickly removed for inspection. Plenum panel is counterbalanced to open easily.

Separate coil sections are staggered in the air path. Multiple condensate drains rapidly remove moisture from coil sections to prevent water building up and partially blocking the low end of the coil, and to assure maximum air flow, moisture removal, and cooling efficiency.

Each coil section is a continuous serpentine tube.



IT IS NO LONGER necessary to cut into the cabinet and perform major modification in order to turn the fan for discharge through the back. To rotate the fan, the serviceman merely removes 10 screws, disconnects the wiring, and rotates the entire L-shaped section. No cutting or patching is necessary.



NEW MULTI-FLOW COOLING COIL is composed of individual serpentine coil sections with smooth fin surface of 14 per inch. Staggered fin and tube construction gives greater cooling surface area. The new plastic condensate collector pulls out like a drawer. Design is such that air no longer passes through already condensed moisture.

The condenser stands in an upright position so that less liquid refrigerant collects in the bottom. Helically-wound continuous tubing has no joints.

Pulsations of compressor are absorbed in a multi-reflex muffler built into the refrigeration system. Flow and distribution of refrigerant to the cooling coil is controlled by a precision operation expansion valve.

Marbut Opens Branch In Brunswick, Ga.

BRUNSWICK, Ga. — Marbut & Co., Macon, Ga., distributor of heating, air conditioning, and plumbing equipment and supplies, has opened a branch office here.

The firm has leased the offices of the Builders Supply Corp. building on Albany St. Presently, there is an employe force of five persons, with a traveling salesman working out of this office. When operating at capacity the manager anticipates adding three or four more employes.

E. W. Broker is manager of the wholesale firm's new outlet, Marbut announced.

Many Rooms Cooled In Hotel Alterations

PHILADELPHIA — Included in the $500,000 alterations at The Hotel Walnut Park Plaza here was air conditioning of a dining room and cocktail bar, the main banquet room, two smaller banquet-meeting rooms, and many guest rooms, according to the Ballinger Co., architect of the project.

The Plaza, formerly residential, now has transient rooms as well as housekeeping apartments. The hotel continued operating while renovation went on.

Other alterations included a stainless steel marquee, modernizing the lobby and adding a control desk, new executive offices, redecoration, putting television in all guest rooms, adding the main banquet room with facilities for 350, and building a parking lot, the Ballinger firm said.

Baltimore Utility To Install 1,400-Hp. System

BALTIMORE—Largest single installation of air conditioning ever made locally in an existing office building will be put in the Baltimore Gas & Electric Co.'s central office buildings here.

Riggs Distler & Co., Inc. has the contract to install the 1,400-hp. system, which will have 900 hp. in refrigeration compressors. The year-round system will cool by chilled water with individual office temperature control. A cooling tower will provide for reuse of condenser water.

Dravo Building Lab

PITTSBURGH — Ground has been broken here to begin a $400,000 building program for centralized research operations of Dravo Corp.

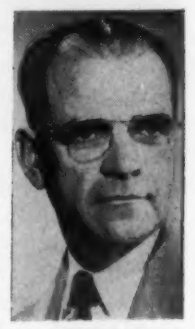
Many types of applied industrial research will be carried on in the new facility. Among Dravo's activities are industrial heating and air conditioning.

Airtemp Appoints Carnahan, Anderson

DAYTON — In conjunction with recently disclosed expansion plans, Airtemp Div. of Chrysler Corp. has announced the appointment of two new sales managers.

H. Melvin Carnahan has been named sales manager in charge of residential air conditioning and heating and S. Anderson, Jr., sales manager in charge of commercial and industrial air conditioning.

Carnahan


Anderson

Carnahan, who held the post of assistant sales manager, residential air conditioning, joined Airtemp earlier this year. He was formerly vice president of sales of Sunbeam Air Conditioner Div. of American Standard Co., Pittsburgh.

Anderson, who until his present appointment was assistant sales manager in charge of Airtemp's southern sales division, has been associated with air conditioning sales for a number of years. With Airtemp since 1943, he has in the past headed the company's Washington, eastern, and Atlanta sales regions.

Surface Elects Bell V.P.

TOLEDO—Election of Robin A. Bell as a vice president of Surface Combustion Corp. has been announced by Frank H. Adams, president.

Bell, who has been associated with the company since 1928, is general manager of the Janitrol Heating and Air Conditioning, Automotive, and Aircraft divisions, with plants located in Columbus, Ohio.

NEW POWER
for DIRECT-DRIVE BLOWERS

The New Type CY Permanent Split Capacitor MicroMotor ... by Redmond

This new Type CY MicroMotor makes practical, larger direct-drive blowers. Manufacturers can reduce installation costs by eliminating belts, blocks, pulleys and motor mounts required in conventional blower assemblies.

Major features of the Type CY motor include:

- Elimination of starting switches and relays.
- Low starting current.
- Gradual torque build-up.
- Adaptability to multi-speed operation.
- High power factor.
- Lighter weight design.
- Can be mounted in any position.

Typical Performance Data:

⅓ H.P. • 115 v. • 1075 r.p.m. • 5.4 amp. • 497 watts • 50% efficiency 80% Power Factor • 12.1 MFD capacitor.

Write today for complete specifications

ADVERTISED IN The Saturday Evening POST

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Redmond COMPANY, INC.
OWOSSO, MICHIGAN

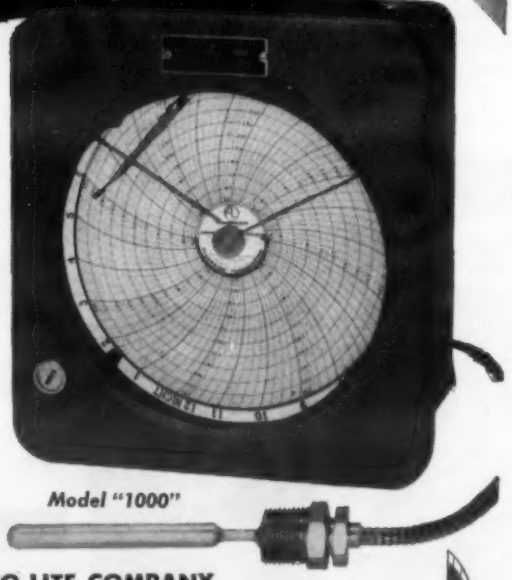
THE BIG NAME IN SMALL MOTORS

AUTO-LITE

TEMPERATURE RECORDING...

Newly designed, Model "1000" Auto-Lite Recorder gives permanent proof of temperature behavior. • 6" clear reading chart; various standard ranges from minus 40°F. to plus 550°F. • 3 standard types; choice of 24-hr. or 7-day cycle. • Electric or mechanical chart drive. • With capillary tubing for remote reading. Priced from $49.50.

Send for new catalog describing many styles of Auto-Lite temperature Recorders and Indicators.


Model "1000"

THE ELECTRIC AUTO-LITE COMPANY
INSTRUMENT AND GAUGE DIVISION
TOLEDO 1, OHIO
NEW YORK • CHICAGO • SARNIA, ONTARIO

TEMPERATURE RECORDERS

For more information about products advertised on this page use Information Center, page 28.

Group Acquires Dale Supply Co.

NASHVILLE, Tenn. — Harry G. Moore, J. H. Holliday, Sr., and J. H. Holliday, Jr., have acquired from Albert J. Dale his entire ownership interest in the Dale Supply Co., wholesale distributor of heating and air conditioning supplies.

J. H. Holliday, Jr., becomes president of Dale Supply, which handles Temco furnaces, heaters, dryers, and other products.

Dale, who founded Dale Supply Co. in 1953, will devote his time to his retail heating and air conditioning business, Dale & Maxey Co.

The firm will retain the same staff, including Moore as secretary-treasurer and operations director and Marvin F. Binkley, in charge of engineering, who will be assisted by J. H. Holliday, Sr.

National-U.S. Radiator Organizes Heating and Air Conditioning Div.

JOHNSTOWN, Pa. — Organization of the heating and air conditioning division of National-U. S. Radiator Corp. here recently was completed, according to J. Roy Knox, divisional vice president for sales.

C. H. Austin was appointed assistant to the divisional vice president, Knox stated. Departmental sales managers are R. S. Doherty, Packet and Super-Pak, H. J. Muhlitner, heating accessories, with W. C. Callihan as assistant, S. Moroh, air conditioning and warm air section, with W. H. Schanhite in charge of distribution, R. O. Shelkey, finned surface heating products. J. P. Bird is chief of sales and price analysis, assisted by D. A. Hamilton and A. J. Ellerbrun.

Detrick To Address Upper Midwest RSES

SIDNEY, Ohio — Glenn Detrick, Copeland Refrigeration Corp. service manager, will address the upper midwest regional Association of RSES at that group's Canadian convention at Winnipeg, Manitoba, Oct. 21 through 23.

Detrick's topic will be the servicing of accessible hermetic motor-compressors. The talk will include a live demonstration of the phases of motor-compressor operation and trouble-shooting procedures.

Following the convention, he will explain the development and applications of Copeland's new suction-gas cooled motor-compressors to service groups in eastern Canada.

Under the auspices of Railway and Engineering Specialties, Ltd., Detrick will hold meetings at that company's Toronto office, 820 Caledonia St., on Oct. 24; at the Hotel Laurentien, Montreal, Oct. 26; and at the Clarendon hotel, Quebec City, Oct. 27.

Wolverine Moves Sales Office In Louisville

DETROIT — Louisville, Ky. sales offices for Wolverine Tube, Div. of Calumet & Hecla, Inc., have been moved to larger quarters, J. H. Smith, east central district sales manager for Wolverine Tube, announced.

The new address is, Suite 128, Iroquois Plaza, 5330 S. Third

Kresge To Cool New Store

CINCINNATI — The S. S. Kresge Co. announced plans to open a new air conditioned, self-service store in the Swifton Shopping Center.

HM THE ONLY Matched

COOLING TOWERS and CONDENSERS

The Halstead & Mitchell Cooling Towers you select are *matched* by design to work with the famous Halstead & Mitchell water-cooled Condensers. You need no longer buy a high-efficiency cooling tower to work with a low-efficiency condenser (or *vice-versa*) . . . a long-life cooling tower to work with a short-life condenser (or *vice-versa*).

Remember that every cooling tower you sell is planned to work with a water-cooled condenser—then you'll see why America's leading manufacturers of air-conditioning and refrigeration equipment have swung to Halstead & Mitchell for their original equipment needs in both these components.

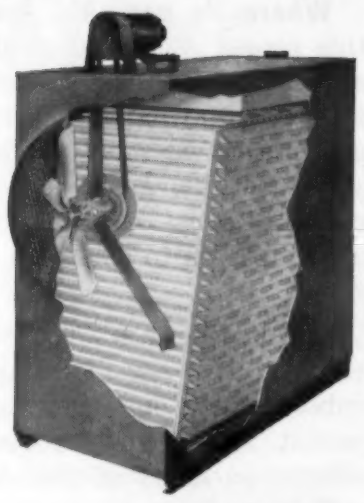
With cleanability you'll sell more. Why sell less?

20-Year Guarantee!

on the wetted deck surface against rotting or fungus attack

Only Halstead & Mitchell pressure-creosoting can provide a *guarantee* against immediate attack by fungus and marine parasites . . . or chemical deterioration from acids in water.

Added to this H&M exclusive are other major advantages. There's ultra-high efficiency in the gravity-type water distributing pan which eliminates extra pumping head required on spray type towers . . . and cuts down on water losses due to "atomizing" of water. And there's extra-long life in stainless steel fans . . . and sheet steel cabinets hydraulically painted with vinsynite, vinyl zinc and chlorinated rubber.



2 thru 120 TONS

1/3 thru 25 TONS

Lifetime Cleanability

The *mechanical* cleaning of H&M double-tube, counter-flow condensers means the simplest, least dangerous method of restoring new unit efficiency. Whether removing a heavy coating of sludge and scale, or a thin insulating film on the inner walls of the copper tubing, the mechanical cleaning tool restores heat transfer efficiency in a matter of minutes. The result is lowered discharge pressures . . . more heat carried off by cooling water . . . lower bills. *Only* the impurities are removed . . . the thickness of the copper wall remains intact, and the condenser gives extra years of peak service.

At Leading Heating and Refrigeration Wholesalers EVERYWHERE

Write for Detailed Specifications

HM Halstead & Mitchell

BESSEMER BUILDING • PITTSBURGH 22, PA.

what do air conditioning dealers dream about?

(perhaps)

They'll Do It Every Time

by

Jimmy Hatlo

FUNNY YOU COMING IN TO SEE ME WHEN I WAS JUST COMING OUT TO SEE YOU--I WANTED TO TELL YOU WHAT THE INCOME TAX PEOPLE DID TO ME--I'M PRACTICALLY PENNILESS! I'M THINKING OF JUST LOCKING UP AND QUITTING BUSINESS FOR GOOD--UH--WHAT WAS IT YOU WANTED TO SEE ME ABOUT, HENRY?
I KNEW IT! HENRY'S ALL SET TO ASK FOR A RAISE AN' BIGDOME CRIES HIM OUT OF IT BEFORE THE BELL FOR ROUND ONE--
THAT'S COUNTER-PUNCHING! BIGDOME CAN SMELL A TOUCH A MILE AWAY AND HITS 'EM WITH HIS SOB ACT FIRST--
OH--UH--NOTHING AT ALL--UH--CHEER UP, CHIEF--YOU GOTTA LOOK ON THE BRIGHT SIDE.
"PRACTICALLY PENNILESS"--AN' HE JUST BOUGHT A MINK-LINED ICEBOX FOR HIS OLD LADY--
AND THE INCOME TAX PEOPLE HE CONS ABOUT HOW GOOD HE IS TO HIS HELP!
J.P. BIGDOME PRES.
WATCHING BOSS-O PUT ON THE POOR MOUTH WHEN HE GETS THE TELEPATHIC IMPRESSION THAT SOMEBODY WANTS A RAISE----
JIMMY HATLO
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Honest Standards For ALL Business

Almost angrily, on proper occasions, AIR CONDITIONING & REFRIGERATION NEWS has campaigned editorially for honest standards in the growing but chaotic air conditioning business.

These editorials have stepped on plenty of sensitive toes, but they brought results. Naturally there have been kickbacks, such as this from a substantial advertiser who shall remain unnamed:

"How about you, Mr. Sir Galahad? What standards do you subscribe to in the publishing business?"

Thank the Good Lord, we have an honest and valiant record in this respect. AIR CONDITIONING & REFRIGERATION NEWS is the only accredited ABP publication serving our industry, and also is a staunch supporter of the Audit Bureau of Circulation. The latter, established in 1914 by a group of publishers, advertisers, and advertising agency men, provides guaranteed facts and figures on the *paid circulation*—which is the sole assurance of real readership.

ABC's experienced auditors fine-tooth-comb the records of all member publications. Information winnowed from these audits is issued to advertisers and agencies. ABC audits tell how many subscribers want a certain publication enough to buy it—also where they live and what buying influence they possess.

The Audit Bureau of Circulation credits only subscriptions which are paid for voluntarily. If a publication is received "free" it is considered "wastebasket stuff."

ABC postulates the belief that people value, want, and use only that for which they are willing to pay. All legitimate newspapers and national magazines follow that principle. Unfortunately only a small percentage of trade papers do.

AIR CONDITIONING & REFRIGERATION NEWS, we are proud to state, is an ABC accredited publication. Nobody gets this "Bible of the Industry" unless he desires it, and signifies that need by paying six dollars a year for it. Furthermore, we have no high-pressure field force out selling subscriptions. All orders come in by mail, VOLUNTARILY.

Where do you, Mr. Reader, come in on this score? You paid good money for your subscription to AIR CONDITIONING & REFRIGERATION NEWS. To merit your continued allegiance, we must produce a publication you will like, get a lot out of, and enjoy reading. Thus, our obligation to you also is an obligation to ourselves and to our advertisers.

If you like AIR CONDITIONING & REFRIGERATION NEWS well enough to renew your subscription, our growing circulation will mount. And if you recommend the NEWS to others, as many of you do, our circulation will increase.

We are proud to be ranked with the nation's leading publications—which are members of ABP (the *elite* of paid-circulation business papers). Proud too, to display the ABC symbol—which represents a guaranteed good buy for reader and advertiser alike.

Be thankful not only that you are an individual, but also that others are different. The world needs all kinds, but also needs to respect and use that individuality.—DONALD A. LAIRD.

Handy Way to Subscribe

To See the Industry In Action EVERY WEEK

Keep up-to-date on what's going on in your industry. You'll see action weekly in AIR CONDITIONING & REFRIGERATION NEWS. Covers latest news and gives you top how-to-do-it reports on commercial and residential air conditioning, commercial and home refrigeration: manufacturing, contracting, distributing, retailing, and servicing. Read the Industry's newspaper for profit every week. Only $6.00 per year, 52 issues.

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F. M. COCKRELL, *Founder*

'The Conscience of the Industry'

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"I have always felt that whatever the Divine Providence permitted to occur I was not too proud to report. The people are not served by pussyfooting, or by that sort of journalism in which nobody will ask who is the editor of a paper or the writer of an article, and nobody will care."—*Charles A. Dana.*

OFF THE CHEST

St. Louis Browns Fans
Of Chicago

Editor:

The St. Louis Browns Fans of Chicago wish to extend to you their thanks for the intelligent, highly sympathetic report on our activities which ran in your esteemed journal in the "Inside Dope." We appreciate the delicacy which led you to caption it "God Bless These Screwballs," and the depth of feeling that went into the salute. Our deepest thanks.

The Browns will rise again,

WILLIAM LEONARD
Corresponding Secretary

New England States Assn.
Refrigeration Service Engineers Society, Inc.
447 Savin Ave.
West Haven, Conn.

Editor:

While attending the quarterly New England States Association Meeting recently, at William Ralston's ranch house in Cranston, R. I., and a wonderful steak dinner as Bill's guest, the subject of your publication came up for a long discussion regarding the real, true value of education your paper renders the service engineers in their everyday duties, plus the sales, business, and safety information.

I was instructed to write you voicing our appreciation of your smart News Weekly that is giving our servicemen a world of information on the new products before they reach the open market in volume. This means a lot to your advertisers and to us. I would like to give you a picture of NESA. It consists of 11 chapters in six New England states, totaling 711 members, and growing fast.

F. J. MORAN

Ed Friedrich, Inc.
110 Block East Commerce St.
P.O. Box 1540
San Antonio 3, Texas

Editor:

I would like to call your attention to page 24 of the Sept. 12 issue of AIR CONDITIONING & REFRIGERATION NEWS, the article entitled, "Party Food Display Atop Frozen Food Case Utilizes Waste Space." In the last paragraph of this article a reference is made to a Tyler case below the display shelves; however, a quick glance will reveal the case illustrated is a Friedrich Floating Air case. You will no doubt receive a number of letters referring to this, and this letter is principally to make it possible for you to correctly identify the case illustrated in any replys you may make to other letters.

J. A. BIGGERS,
Director of Engineering

Air Conditioning for Drivers' Comfort Boosts Service Station's Volume 55%

GRAND JUNCTION, Colo.—Gay Johnson, operator of a large service station here, has become the state's leading retailer of gasoline by catering to long-haul truck drivers.

Air conditioning has played an important role in making life pleasant for the drivers. Johnson provides a comfortable air conditioned lounge, with snoozing accommodations, on the first floor of his two story service building. He even provides shower facilities for his customers.

Starting out in 1942 with only $46, Johnson recently incorporated for more than a million dollars and currently sells 175,000 gal. of gasoline a month at his location midway between Salt Lake City and Denver. His yearly gross is over $1,500,000.

Since he installed a 5-ton air conditioning unit Johnson has boosted his gasoline volume to truckers more than 55%, he said. A trucker simply swings his rig into the station at a large island provided for truck service, turns it over to the attendants, drops into the conditioned lounge for a washup or shower, takes a nap if he wishes, and returns, refreshed, to find his truck ready to go.

College Gets Air Cooling

GREENSBORO, N. C.—Contracts were let recently for Security National Bank's new drive-in branch at Guilford college.

Drayer-Hanson Shipments Up 17% For Company's Top 7 Months

LOS ANGELES — Sales of Drayer-Hanson, Inc. in the first seven months of 1955 were the highest in company history for this period, with shipments averaging an increase of 17.2%, according to Fred E. Schmuck, national sales manager.

This result indicated that sales already are benefitting materially from the factory's recent switch to automation on product assembly, it was pointed out. Automation is being used extensively to speed up work flow "to a marked degree" and reduce manufacturing costs.

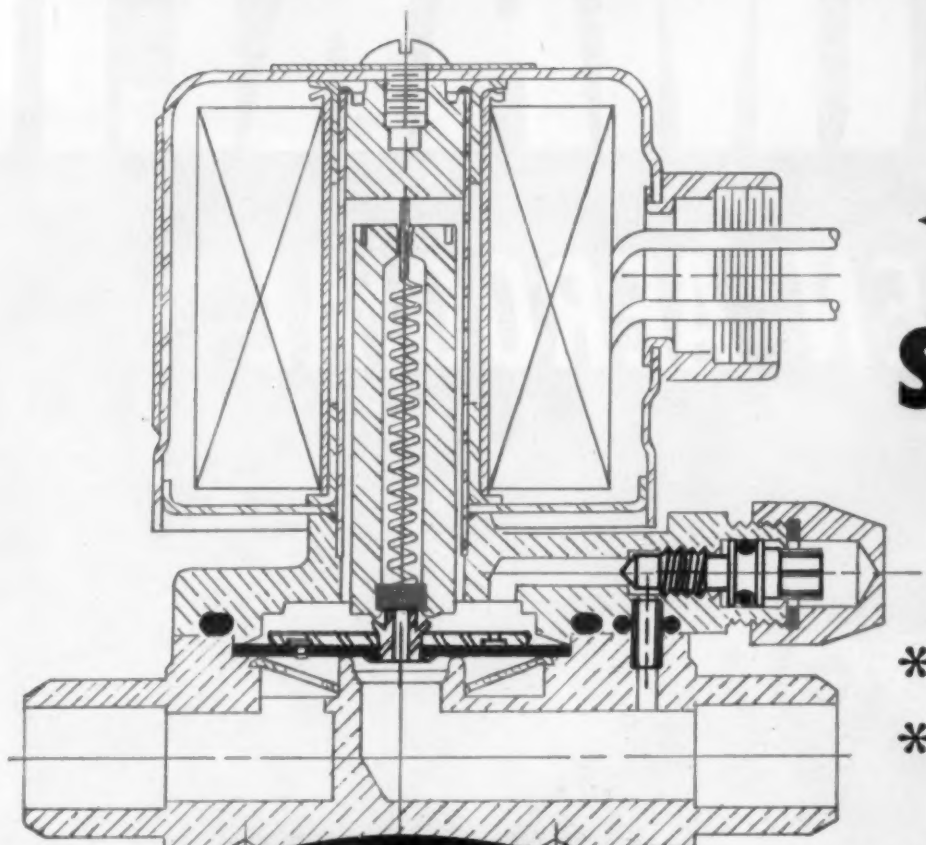
The change-over, while still incomplete, will ultimately see almost the entire line of the company's product moving out via automation, Schmuck said.

Automation is now used throughout assembly of Drayer-Hanson's full line of "standards" and "special" individual-room air conditioners for multi-room applications—the "Spot-aire" series.

Another section of the company's 125,000 sq. ft. of plant space saw recent addition of conveyor systems for assembling other types of products. Included are plenum and fan sections of multi-zone-type air handling units, evaporative condensers, commercial coils, and product and produce coolers, among others.

Schmuck said a strong factor in the sales upswing is an aggressive new product development program.

TWO NEW REASONS*



to use

JE

SOLENOID VALVES

* NEW MANUAL STEM

* NEW "FLOATING" DIAPHRAGM
(Patent applied for)

All J-E Solenoid Valves are unconditionally guaranteed for 18 months

In the improved line of J-E Solenoid Valves, the resilient synthetic rubber diaphragm "floats" free . . . it is not clamped at the edges . . . providing greater flow of fluids at lower pressure differentials.

The new manual stem provides action similar to magnetic opening of the pilot port and eliminates all mechanical strain. Opening is obtained by ½ to ¾ turn of stem—no winding. New location reduces overall height of valve.

In addition to these new features, J-E Solenoid Valves give you other time-tested advantages, including:

QUIET OPERATION—no mechanical linkage or impact action.

DEPENDABILITY—tight seating with absolutely no bubble tolerance. No metal-to-metal contact to wear—no close tolerances.

MAINTENANCE FREE—only two moving parts—flexible diaphragm eliminates clogging—minimum temperature rise assures cool coils, long life.

For complete information on the wide range of sizes available in the newly improved line of J-E Solenoid Valves, call your wholesaler or write direct today.

LOOK FOR THE RED DIAMOND JE SOLENOID VALVES

—for lasting customer satisfaction

JACKES-EVANS MANUFACTURING COMPANY

Controls Division: 4427 Geraldine Avenue, Saint Louis 15, Mo.

TURN THE PAGE and see what air conditioning dealers dream about

ALWAYS

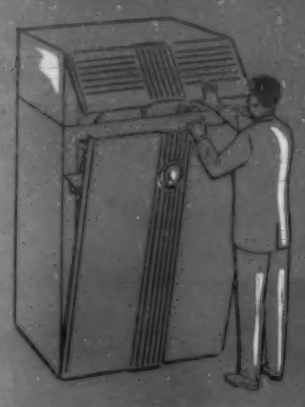
The Sensational

NEW CARRIER WEATHERMAKER

with the GOLDEN AERODIAL

A DREAM OF AN AIR CONDITIONER
DESIGNED FOR LOWER INSTALLATION COSTS

New styling concept. The new Carrier Weathermaker is as handsome without a plenum as with. Sea Spray iridescent baked enamel finish highlights and enhances surrounding colors.



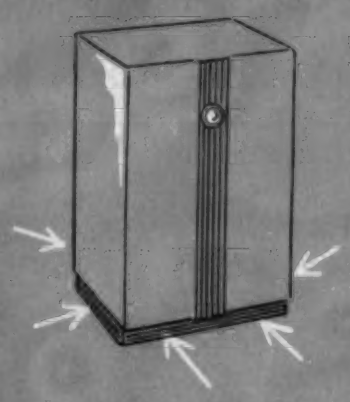
EXCLUSIVE finger-tip release panel. Two readily accessible snap locks release the front panel so it can be quickly removed. Plenum panel is counterbalanced to open easily. No tools of any kind needed.

EXCLUSIVE Golden Aerodial. It's 22-karat gold-plated and beautiful! Convenient, too, for under the lucite dome are the main control, thermostat knob, reset button. Easy reset cuts service calls.

Rugged welded chassis. The chassis is built of heavy-gauge steel welded into a rigid cabinet. The surface is bonderized, coated with rust-resistant primer and finished in lustrous baked enamel.

New Humitrol. New design gives more effective humidity control. You can speed dehumidifying action at will. Control lever is recessed in the front left side of the casing for convenience.

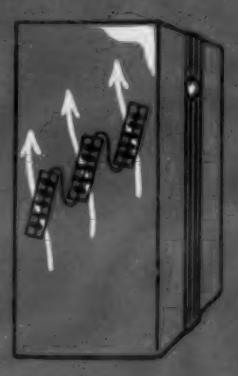
EXCLUSIVE alternate fan discharge. For installations with low headroom, the fan can be changed easily to rear discharge. Exclusive L-shaped fan platform can be inverted. No cutting or patching needed.



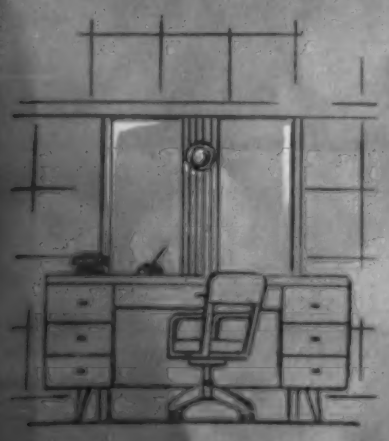
EXCLUSIVE five-way air return. Return air can enter by ducts through the bottom or back. Or a pedestal base can be added so that air can enter at the front or either side. Locate the unit *anywhere.*

Completely insulated compressor compartment. Casing is lined with thick glass-fiber. Heat and sound transmission is reduced. Compressor area partition is also insulated from air stream.

Matching return air intake base. The pedestal is designed to match the Weathermaker in style. It raises the Weathermaker from the floor to permit return air to come in the front or sides.



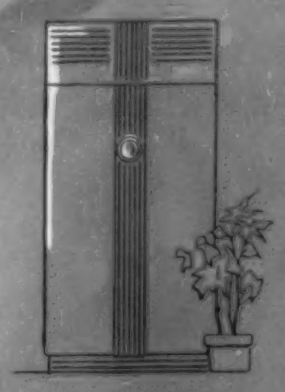
EXCLUSIVE Multiflow cooling coil. Continuous serpentine tube coil sections are staggered in air path. Multiple condensate drains remove moisture quickly . . . keep water from blocking low end of coil.



EXCLUSIVE solid front panel. No return air grille that must be blocked off when return ducts are used . . . no dust or dirt collects . . . no drafts. Furniture can be located directly in front of the new unit.

Fully insulated casing. Thick blankets of glass-fiber insulation line the entire Weathermaker—front, back, top and both sides. Insulation is not confined to the compressor compartment only.

High-capacity heating coils. Either standard steam and hot water or non-freeze steam heating coils may be added without alterations in the unit. They heat the same area the unit cools.

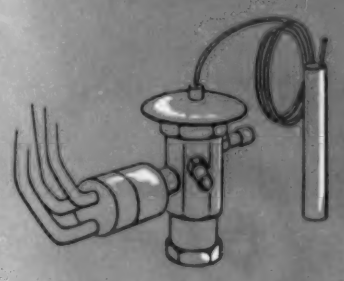


EXCLUSIVE matching plenum. Fully insulated extra-large plenum provides superior air distribution when the unit is installed without ductwork. Four-way directional louvers permit flexible air flow.

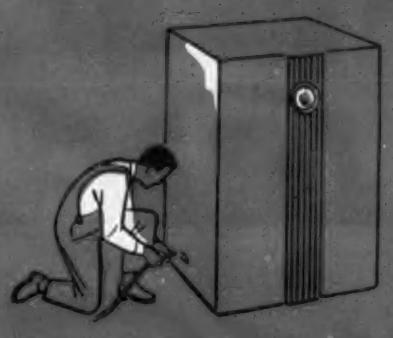
EXCLUSIVE polystyrene condensate collector. Super high-impact, rustless polystyrene collector receives water at several points above filter. It pulls out like a drawer for cleaning. No tools required.

Extra-large replaceable filters. Larger air filters require less frequent cleanings and fewer replacements. Filters remain dry, eliminating re-evaporation. Standard sizes, easily obtainable.

Hermetically-sealed refrigerating compressor. A heavy-duty motor and low-friction compressor are hermetically sealed to keep out dust, moisture and reduce noise. Lubricated for life.



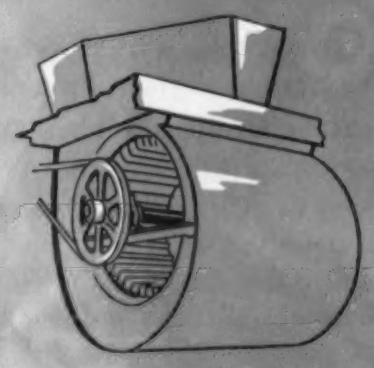
EXCLUSIVE F-M expansion valve. Proper flow and distribution of refrigerant to the cooling coil is controlled by a precision-operating F-M expansion valve. Cooling coil is kept uniformly cold at all times.



EXCLUSIVE electrical center. All control wiring is built-in. Power lines are brought to one readily accessible outlet box. Remote thermostat or cooling tower pump connects easily to built-in terminal block.

Built-in muffler. Pulsations of compression are absorbed in a special multi-reflex muffler built right into the refrigeration system. Prevents annoying pulsating effects from building up.

High-pressure — low-pressure cutout. If abnormal conditions develop, control switch stops the compressor automatically. The motor is thereby protected from damage through overloading.



EXCLUSIVE "QT" fan. This statically and dynamically balanced fan moves large volumes of air slowly and quietly. It is equipped with a centerless ground shaft and low-friction, self-aligning bearings.

EXCLUSIVE Water-miser condenser. Condenser stands in upright position so that less liquid refrigerant collects in the bottom . . . insures better heat transfer. Helically-wound tubing has no joints.

5-year warranty on entire refrigerant circuit. The buyer of a Carrier Weathermaker is protected against defects in material or workmanship in the entire refrigerant circuit for five years.

WEATHERMAK

OPEN TO CARRIER DE

What a bonanza! $10,000 plus a trip anywhere in continental United States! And it can be all yours if you're a Carrier Dealer.

Once you're in the family, here's how this pay-off works:

You receive a contest entry return card from your Carrier Distributor with every new Carrier 50R Weathermaker you stock. This return card carries the serial number of the unit. It also has space to complete the statement, "I like the new Carrier Weathermaker because . . ." All you do is fill in the card and mail it to Carrier Corporation, Syracuse, New York.

Remember, you receive a card for every unit—so you may send in as many cards as you have units. That way you multiply your chances of winning. But be sure to state on each card what you like most about the new Weathermaker. No fancy words are needed . . . no writing experience. With all the matchless Weathermaker advantages to choose from, you can do it in a minute! For pointers, see the two pages immediately ahead.

Then comes the twin pay-off:

First, there's the trip anywhere in the U. S. All return cards

FOR THE NAME OF YOUR NEAREST CARRIER DISTRIBUTOR, MAIL THIS COUPON TODAY!

AKER PAY-OFF

R DEALERS ONLY!

postmarked on or before midnight, November 23, 1955, will be reviewed by the judges. Four winning cards—one in each Carrier Region—will be selected. The holder of each winning card will receive a seven-day, all-expense trip for two to anywhere in the continental United States.

Next comes the *cash!* The second part of the contest closes at midnight, December 31, 1955. All return cards postmarked by this deadline—including all of those received during the first part of the contest—will be judged. Again four winning cards will be selected—one for each of the four Carrier Regions. The holder of each winning card will receive $5000 in cash. This $5000 pay-off will then be *doubled*—to $10,000—if the Weathermaker bearing the serial number of the winning card has been sold to a bona fide retail customer and installed during the contest period.

Make sure *now* that you get a crack at the Weathermaker Pay-off. Become a Carrier Dealer—if you aren't one already. If you are, get in touch with your Distributor. He can give you the full story about the contest, including the official rules.

CARRIER CORPORATION, 310 S. Geddes Street, Syracuse, New York

I'm interested in becoming a Carrier Dealer.
Please send me the name of my nearest Carrier Distributor.

Name_____

Company_____

Address_____

City_____ Zone_____ State_____

Multiple Compressor Plant Has Many Advantages

Cost Offset by Safety, Flexibility, And Closer Temperature Control

By O. B. Wert, Air Conditioning & Refrigeration Div., Worthington Corp.

The advantages derived from installing several reciprocating compressors to supply the cooling or freezing effect for a specific installation has not been emphasized enough to be fully appreciated by many purchasers of refrigeration equipment. This is especially true of jobs of less than 100 tons capacity where wide variations in cooling requirements exist.

It must be pointed out that the initial outlay for the multiple compressor plant is somewhat greater than the system using a single unit for the total load. Even though this larger capital investment may run 8 to 10% higher the benefits obtained will generally more than offset the added cost.

When preparing the equipment specifications, it is necessary to weigh the financial loss that would occur if the cooling process should cease, thus making it impossible to maintain proper temperatures. Too much attention cannot be given to this point. Short interruptions on some installations may not be serious while on others the effects are disastrous.

A compressor failure on a two or three unit plant will still allow the engineer to operate the system at one third to two thirds capacity. This will in many cases hold the load at somewhat higher temperature without detrimental effect to the stored product until the damaged unit can be repaired and put back on the line. Where higher temperatures cannot be permitted, the thruput of the process may be reduced to balance the capacity of the compressors now operating.

Many large users of refrigeration equipment, chemical and otherwise, have established policies for purchasing standby compressors for such an emergency. Smaller users may not be financially able to have such a rule but can obtain much of the same results by splitting the load amongst several units.

PERMITS CLOSER TEMPERATURE CONTROL

The multiple compressor plant in addition to providing insurance against complete failure of the cooling system, permits an effective means of allowing the plant operator to maintain closer control of temperatures. Plant engineers are demanding more constant temperatures and are utilizing control instruments with better sensing elements resulting in the production of a more valuable finished product.

Multiple compressor systems are adaptable to almost any size system and to many types of jobs, such as cold storage warehouses, water and brine cooling loads, meat packing plants, dairy and ice cream manufacture, ice skating rinks, many chemical and industrial processes, and fruit storage houses.

They are equally desirable where it is necessary to design for the maximum wet-bulb temperature in air conditioning systems. On such systems, the load may be only a fraction of the installed cooling capacity much of the time due to unseasonably cool weather or light occupancy of the conditioned space.

Engineers who design for the maximum load on such systems (comfort air conditioning) are aware of the wide variations in cooling requirements and specify compressor unloaders to give as much as 75% capacity reduction.

Many times, a single compressor is required to operate at 25% of its rated capacity for long or short periods. This unloading causes excessive heating of the cylinders and damage to the compressor may result. If the cooling load requires the use of as much or more than 50% of the unit's cylinders, less trouble may be expected by partial capacity operation.

Seasonal market requirements for fruits or other perishable produce placed in cold storage may permit the use of one compressor to handle the load. This will reduce operating costs and bring about the highest efficiency in plant operation. The same conditions may also be present in many other commodities or manufactured products requiring refrigeration in their production.

GREATER FLEXIBILITY

Flexibility in equipment operation is another important advantage obtained by using several smaller compressors instead of one large unit. The engineer can place in operation whichever compressor or compressors most nearly balances the load requirement for that day. The idle unit or units may be inspected and adjusted and kept ready for their turn in holding the temperature.

Most "Freon" compressors are of the multiple cylinder type, so it is possible to purchase for example, a four and a six-cylinder unit with the same bore and stroke to keep spare parts to a minimum and in addition get the added advantage that unequal tonnage compressors give to a job with wide load variations.

For example, a 90-ton air conditioning load (40° F. suction and 105° F. condensing) could be handled by a system having one 6⅜-in. stroke by 5-in. bore four-cylinder compressor at 920 r.p.m. requiring a 100-hp. motor.

A two unit plant might consist of a 4¾-in. bore by 3⅝-in. stroke six-cylinder compressor at 950 r.p.m. with a 60-hp. motor and a 4¾-in. bore by 3⅝-in. stroke four-cylinder unit at 950 r.p.m. with a 40-hp. motor. The larger compressor of the two unit system has an approximate capacity of 55 tons and the smaller four cylinder unit 35 tons. Thus, the larger compressor would handle about 60% of the assumed 90-ton load and the smaller 40%.

With such a combination of compressors and 50% capacity control on each unit the following capacities might be obtained with selected operation of units and capacity control. See Capacity Control Chart.

It is, of course, possible to make the operation of the compressors and their capacity control entirely automatic to get the capacity steps shown. As a general rule most installations do not require such an elaborate arrangement.

REDUCED OPERATING TROUBLES

The multiple compressor job diminishes or may completely remove the detrimental effects of short cycling which occur under light load conditions where one large unit has been chosen to handle the design load. The control for starting and stopping a single compressor installation may have to be set for a wide differential to prevent too frequent starting of the unit. This is not necessary where multiple units are used.

Where load variations are large, cooling systems using two (or more) compressors and "Freon-12" as the refrigerant are less apt to have operating troubles at partial capacity if they are designed so that each compressor has its individual condenser and evaporator. The suction and discharge lines in each cycle will be sized for their part in the total plant load. Since one or more compressors may be shut down due to light

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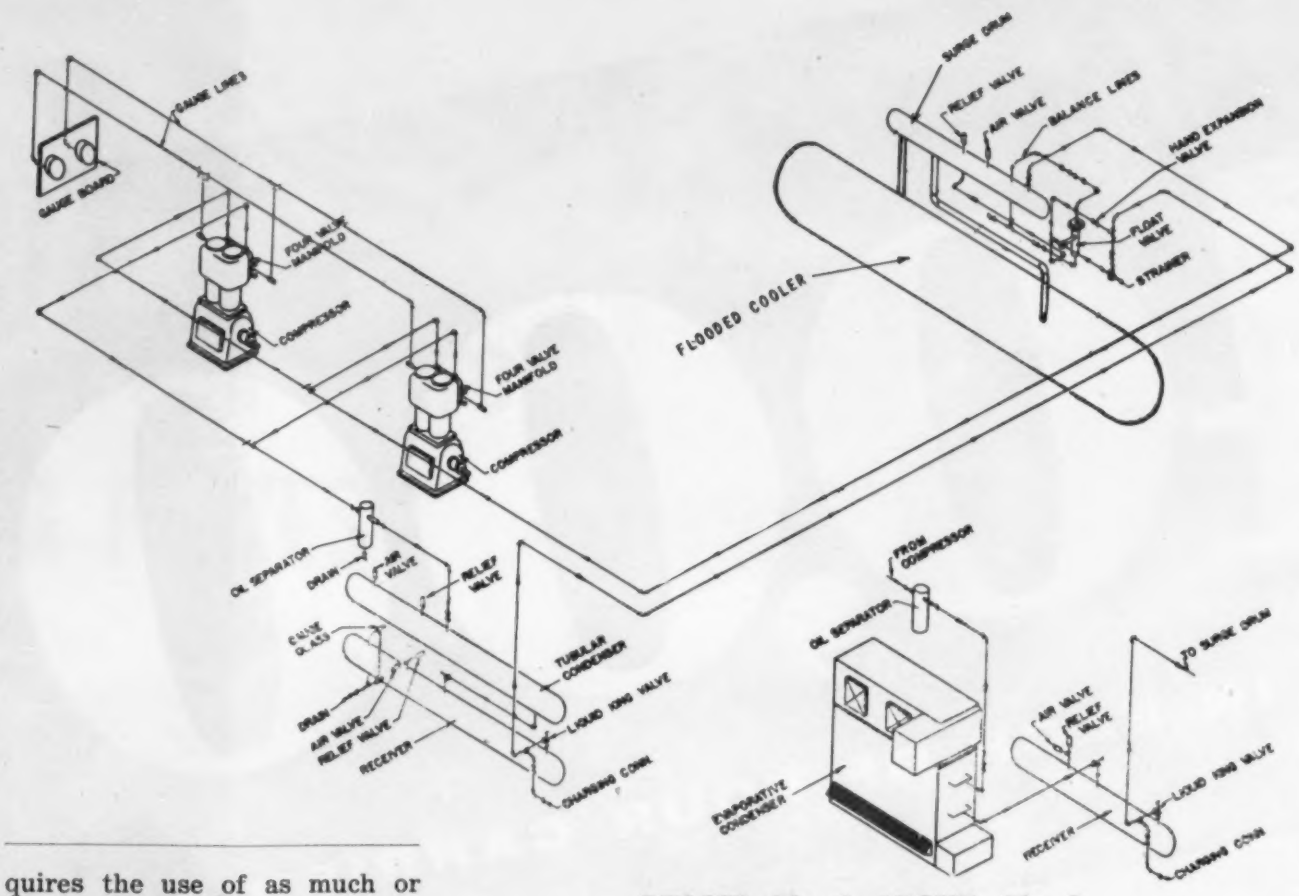
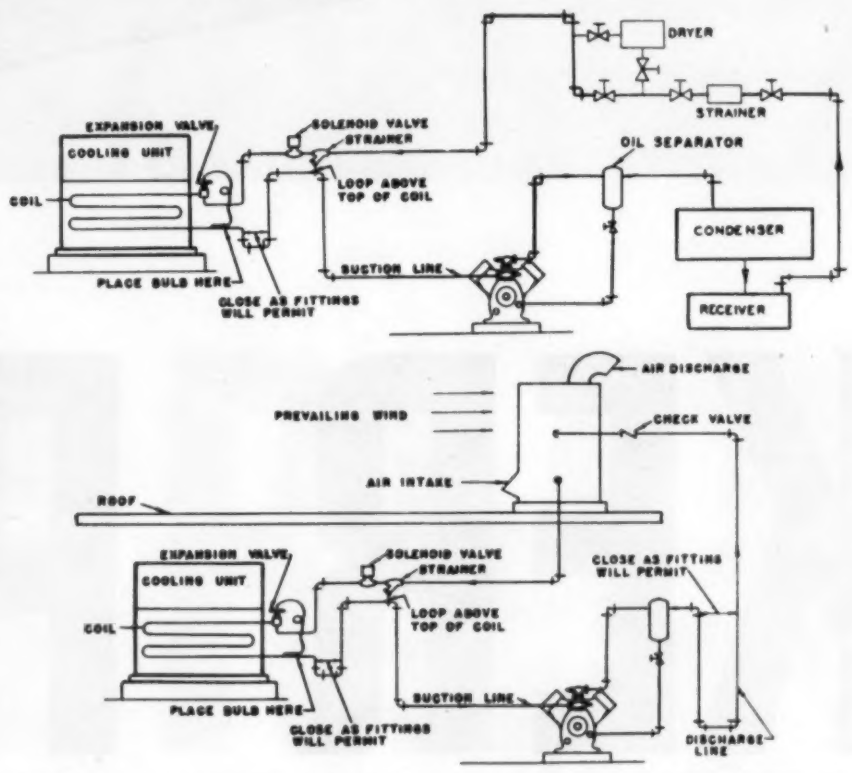
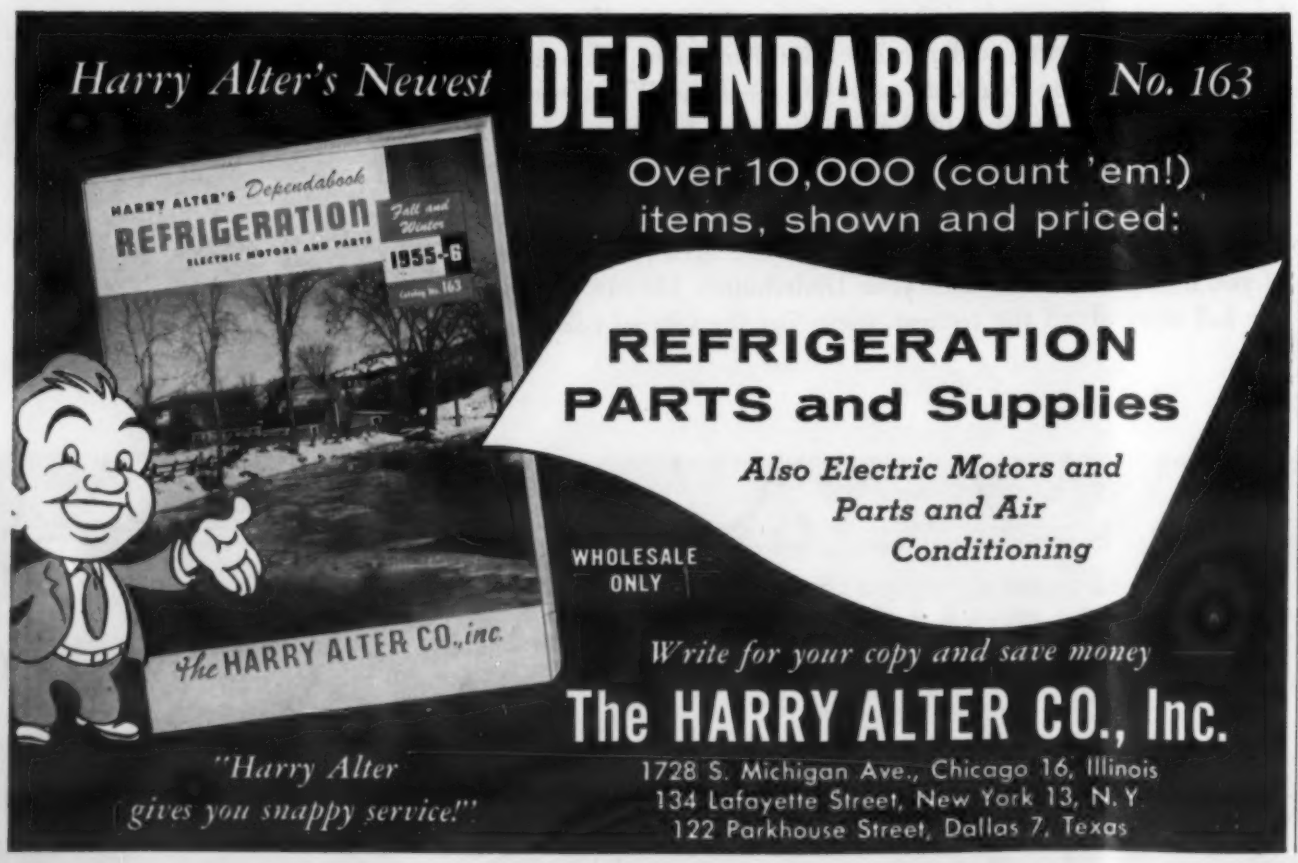


BELOW: Fig. 1. ABOVE: Fig. 2.

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For more information about products advertised on this page use Information Center, page 28.

Multiple Compressor Plant--

(Concluded from preceding page)

load, the remaining unit or units will be operating at nearer to their full capacity.

Thus, the gas velocity in both suction and discharge lines will not fall to too low a figure as might occur with a single unit system or where common discharge and suction line are used on multiple compressor systems. The oil will travel with the refrigerant vapor and be returned to the compressor crankcases in the usual way.

Each cycle will operate independently as a separate refrigeration system as shown in Fig. 1. The evaporators for the total tonnage may be in one casing or shell. The same arrangement may be used for the refrigerant condensers.

Each of these components are then arranged with double coil or tube circuits depending on the design selected to best suit the job requirements. Many problems will be eliminated if the systems are kept separate.

Where ammonia is the refrigerant, the system may be separated similar to Fig. 1 or it will give equal performance when it is arranged as shown in Fig. 2.

AMMONIA AS THE REFRIGERANT

The use of ammonia as a refrigerant has still held its place in certain industries for a number of reasons. The ease of adding units to an existing system (as shown in Fig. No. 2) on both the high and low sides, is one of these advantages. Systems using ammonia compressors may be split up into the sizes that will best fit the expected load requirements throughout the operating year.

Greater variation in capacity can be attained since any or all of the compressors man be operated with the total coil or evaporator surface. For example, if a 60-ton system were required by a process to operate at 5° F. evaporating temperature and a 15° F. temperature difference one 40-ton and one 20-ton compressor could be installed to do the cooling.

It would be possible to obtain 44 tons with the larger compressor and 23.6 tons with the 20-ton unit when either was operating on the full evaporator surface installed for 60 tons due to the higher evaporating temperature and smaller temperature difference at part load conditions.

The evaporator and condenser on an ammonia system may be supplied in two or more parts and with proper valving so that any compressor may operate on any part of the system. This is especially desirable on the high side as it allows the operator to clean the condenser tubes when necessary without a complete shut down of the plant. Where it is reasonable to expect the business or process to grow, the suction and discharge lines may be over-sized on the initial installation at slight additional expense and not have any detrimental effect on operation.

Multiple compressor systems as outlined above have definite advantages for the puchaser where wide variations of load occur, and careful study should be made before a single compressor unit is installed on such applications.

The equipment installed during 1954 at CIBA Pharmaceutical Products, Inc., Summit, N. J. for air conditioning a portion of their critical production area is a fine illustration of what can be accomplished with a multiple compressor installation where wide variations in cooling requirements may occur.

This installation consists of two 4JF-6 Worthington condensing units having 50-hp. motors each producing 40 t.r. at 670 r.p.m. with 40° F. evaporating temperatures and 105° F. condensing. Compressors are equipped with three step capacity control.

These units operate on a large central station air handling unit arranged with four equal coil circuits. Two coil circuits are taken care of by each compressor. The system in addition to having separate suction lines to each compressor also has individual discharge lines from the compressor to its shell and tube condenser.

CAPACITY CONTROL

% CAPACITY	COMPRESSOR OPERATING
100%	Both compressors operating at full capacity.
80%	Large unit at 100% capacity, small unit 50% unloaded.
70%	Small unit at 100% capacity, large unit 50% unloaded.
60%	Small unit shut down, large unit at 100% capacity.
50%	Both units operating 50% unloaded.
40%	Large unit shut down, small unit at 100% capacity.
30%	Large unit 50% unloaded, small unit shut down.
20%	Small unit 50% unloaded, large unit shut down.

The velocity in any of the lines with this arrangement cannot fall much below 50% of the design value and oil return to the compressors has not been a problem. No oil or gas equalization lines are needed so that the piping to interconnect the various components presents a very pleasing appearance as may be observed in the photograph.

The third unit is a 3JF-6 Worthington condensing unit having a 20-hp. motor and is used on a separate air handling unit.

The engineers in specifying multiple units and the customer in realizing what such a system would give them in trouble free operation is clearly shown by their complete satisfaction with the installation. They feel the extra initial outlay was money well spent.

Superior Valve Names Talty Midwest Manager

PITTSBURGH — Raymond J. Talty has been named midwest district manager of Superior Valve & Fittings Co., reports George R. Allen, vice president.

R. J. Talty

Talty becomes manager of all sales and warehouse activities originating in Chicago. He replaced William W. Sauter who has resigned to join the A. Gatz Supply Co., Chicago.

For the past eight years, Talty has been assistant sales manager in the Chicago district for Mueller Brass Co. and before that time, was Chicago warehouse manager.

KRAMER

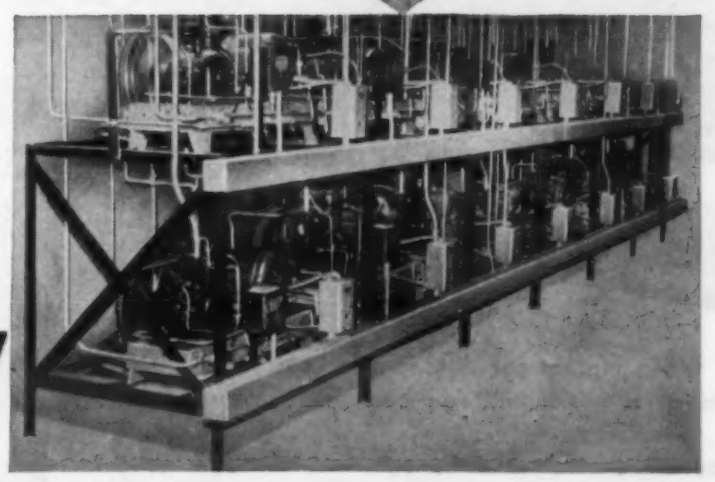
UNICON FOR SUPERMARKETS

Serves 14 Compressors
Winter and Summer
WITHOUT ANY WATER*

Photographs of UNICON installation at Trimborn's Supermarket, Hales Corner, Wisconsin

Installed by Real Refrigeration Sales and Service, Milwaukee, Wisconsin

Units furnished by Wisconsin Refrigeration Supply Company, Milwaukee, Wisconsin

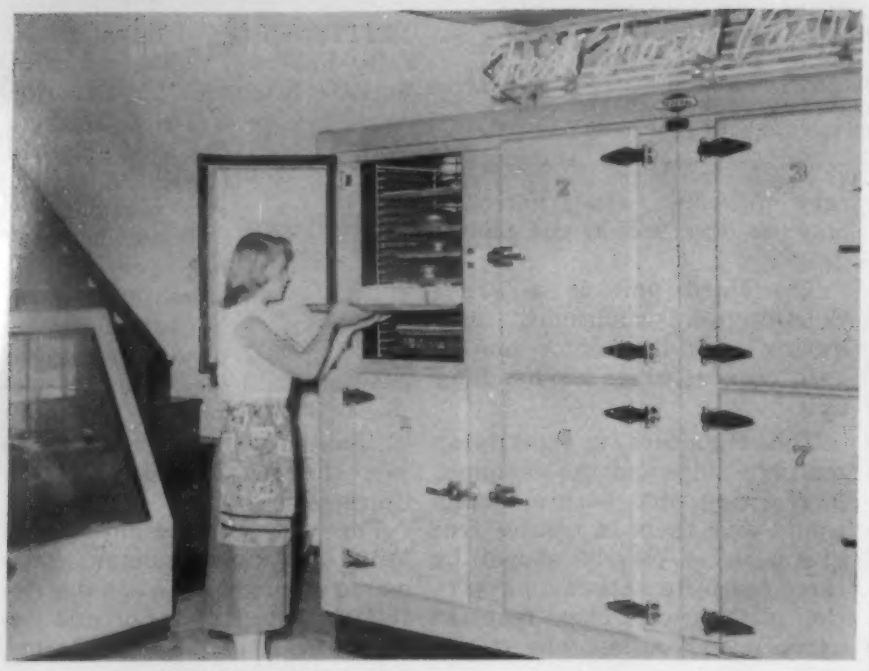


WRITE FOR BULLETIN U-291

**UNICON is a Remote-Type Air-Cooled Condenser*

KRAMER TRENTON CO. • Trenton 5, N.J.

Low-Temperature Refrigeration Allows Bakery To Meet Booming Demand



VIC'S BAKERY put this $2,300 low-temperature box "on display" in its retail store. Eight compartments serve freshly-frozen pastry.

3-Step Plan Solves Problem In Thriving Colo. Uranium Town

GRAND JUNCTION, Colo—Extensive use of refrigeration to guard against running out of needed baked goods is one phase of a three-point program adopted by Vic's Bakery here to keep pace with the uranium boom which has brought new families pouring into this western Colorado community at the rate of from 45 to 60 a month.

Victor Colony, operator of the concern, also established two branch stores in local supermarkets to ease the extremely serious parking problem. In addition, he invested $10,000 in a complete remodeling of the main plant to boost efficiency of the five bakers and improve customer service.

After First Ore Strike Colony Analyzed Situation

When the first multi-million-dollar atomic ore strikes were made three years ago, veteran baker Colony was wise enough to pull up in stride and analyze the situation.

This was no "flash in the pan," he told himself, inasmuch as it was certain that the government, the defense department, and later on, industry would absorb all of the fissionable material which the rich Colorado plateau could produce.

"In other words, I felt that the uranium boom was only the beginning," the baker said, "and that the wisest step we could take would be to rearrange our operations to fit."

This was not easy, due to the fact that Vic's Bakery could not expand physically in its downtown location and the fact that Colony was unwilling to give up the main street corner.

But since that time, with the horde of prospectors, allied workers, and government employes filling up every nook and cranny of the Grand Junction area, Colony has completely his three-part program.

Step number one—setting up the two branches in supermarkets—was relatively simple.

Having established a high standard of quality over 18 years of retail baking in the community, Colony had no difficulty in "selling himself" to the management of local supermarkets—and in this way, capitalizing indirectly upon their excellent parking facilities.

With one branch store located only a block from the main bakery and another less than a half a mile away in the suburbs, it is possible for the bakery to service its units swiftly and economically.

Inasmuch as Grand Junction's downtown streets are crammed with jeeps, rebuilt ambulances, and core-drilling rigs, as well as standard passenger automobiles, finding a place to park to

(Concluded on next page)

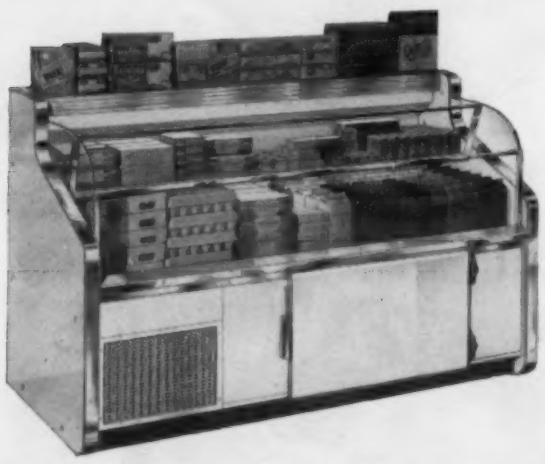
REFRIGERATED CASES preserve pastries while on display.

Schmidt

SELF-CONTAINED REFRIGERATED CASE

For Dairy Products, Meats, Vegetables

Yes, you sell something extra when you sell Schmidt. In floor space measuring only 3′ by 6′, this Schmidt case gives 18 square feet of refrigerated space *plus* 6¾ square feet of non-refrigerated display space . . . a total of more than 24 square feet of display! There's extra value, too, in the 13 cubic feet of refrigerated storage!



- Completely self-contained
- Forced air refrigeration
- Fits through standard door
- Plug it in anywhere
- No installation costs

There's a big market for this Schmidt case, since most store floor space is at a premium. You can sell at least one every week!

Help your customers make money—save money. Write for details.

QUALITY THESCO Since 1870

THE C. SCHMIDT COMPANY

1712 JOHN STREET — CINCINNATI 14, OHIO

85th Anniversary

ANOTHER JARROW GASKET ACHIEVEMENT!

V-1212

THE NEW VINYL PLASTIC EXTRUSION MADE-TO-ORDER FOR THE REFRIGERATION INDUSTRY!

Tough, flexible vinyl plastic cover **plus** the well known resiliency of sponge rubber.

Rugged Vinyl Outer Jacket Can't crack, check, oxidize.

Highly Grease Resistant Sheds oils, greases like water off a duck's back!

Weather-Proof Non-deteriorating under long exposure to hottest or coldest weather conditions.

Long-Wearing

Easily Cleaned

JARROW PLASTIC GASKETS are available in frames with spliced corners to your sizes.

All Jarrow Gaskets are custom-made to your exact requirements. Plastic Gaskets in any color. Consult with our engineers about your problem.

V-1212 IS NOW USED ON:

- Refrigerated display cases.
- Walk-in coolers.
- Weather-exposed freezer doors.
- Refrigerated truck bodies.
- Railroad cars both refrigerated and non-refrigerated.
- and on many other applications.

Job-proved JARROW gaskets include:

H-1370 Double-Seal Gasket. Dead air space between double ridges gives added protection against refrigeration loss. Extra heavy Neoprene cover with sponge rubber cushion.

Plastic Sill Wiper Gasket for Cold Storage Doors.

Sponge Rubber Gaskets.

Send for Catalog

If you're going to the A.R.I. Show, Nov. 28-Dec. 1, Atlantic City, be sure to stop in at Jarrow Booth 626.

JARROW PRODUCTS INC.

420 NORTH LA SALLE STREET • CHICAGO 10, ILL.

For more information about products advertised on this page use Information Center, page 28.

Bakery Meets Growing Demand--

(Concluded from preceding page)

shop in the bakery is difficult. The branch setup alleviates this problem.

Step 2—Remodeling

Under step number two—remodeling the main plant—Colony has created what is certainly one of the west's most unusual retail bakery arrangements.

Recognizing the likelihood of spurts of business and the steady increase in the number of customers to be expected, he "opened up" the bakery completely. The partition which separated the bake shop from the retail store has been removed so that the bake shop itself is "on display."

To lend eye appeal, Colony arranged for all wall surfaces to be tiled in plastic, a glossy tile floor, and complete refinishing of all fixtures and equipment visible to the public.

Each customer can watch baking operations being carried out and when salespeople are tied up with customers any of the five bakers on duty can "step in." This has eliminated walk outs and ill-will.

Also, the clerks like the arrangement because they save steps in going back for hot bread and rolls. (Each day, from 10 o'clock till noon, the bakery advertises hot bread right from the oven).

Business offices are on a mezzanine balcony suspended above the counter. The space below, all the way to the rear of the bakery, is completely open.

Step 3—Low Temperature Refrigeration Added

This remodeling took place a year ago. At the same time, step number three was taken. This was application of low temperature refrigeration to baking—a process which Colony had not been able to exploit to its fullest in the past.

He purchased a $2,300 sub-zero reach-in refrigerator which stands, in full view, along the wall of the sales section. He spent a similar amount for a 10 by 10-ft. walk-in refrigerator which was installed in the basement.

The two refrigerators permit Vic's Bakery to maintain a stock of up to 350 frozen cakes, for example, and to meet practically any request which is likely to be made.

Unusual Event Got Bakery In Field

"We actually got into the refrigeration field through an unusual event," Colony said.

"Eight years ago, when a new supermarket opened in Grand Junction, the management asked whether we could produce 2,000 cakes to be given away to customers. I immediately pointed out that a lot of the cakes would grow stale before they could be given away.

"The supermarket manager suggested that we place them in his big refrigerator, which seemed to solve the problem. I hadn't known that the box was a sub-zero model and was amazed at the quality of more than 1,500 cakes which were frozen and given away over a period of several days. That convinced me and we have been using refrigeration on a small scale ever since."

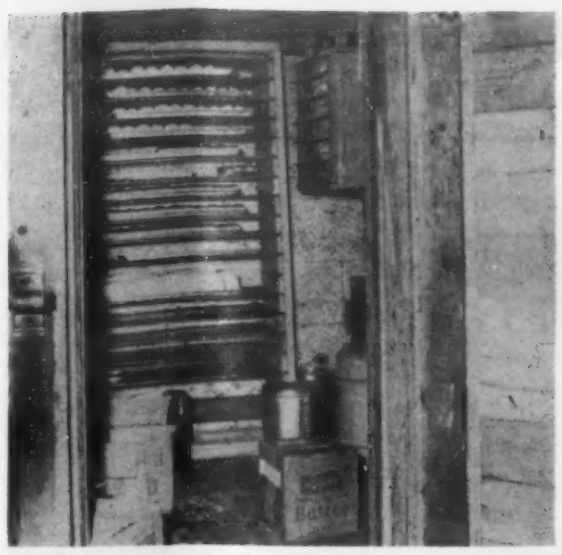
Now, with a new retarder, fruit box, and a standby refrigerator, in addition to the two low temperature models, Vic's Bakery is in excellent shape to meet any sort of demand. To date, refrigeration has been applied primarily to cakes, pastries, stollens, and sweet rolls, but many experiments are planned for the future.

To bring new families into the shop, Colony has instituted an unusual goodwill-building stunt.

"Welcome breakfasts" are staged in cooperation with a commercial welcoming service, offering new families in Grand Junction an opportunity to meet over a tasty breakfast in a downtown hall and get to know each other and the merchants who serve them.

For each such event, Vic's provides from eight to 15 dozen doughnuts with the bakery's compliments. This friendly gesture has proven very effective.

After sales increases of 10% in 1953 and 20% in 1954, Colony is now enjoying a volume of better than $100,000 a year.



VIC'S BASEMENT walk-in freezer stores pans of frozen pastries — chiefly cakes, stollens, and sweet rolls—and maintains them in readiness to be moved upstairs for display.

Copeland Appoints Small District Representative

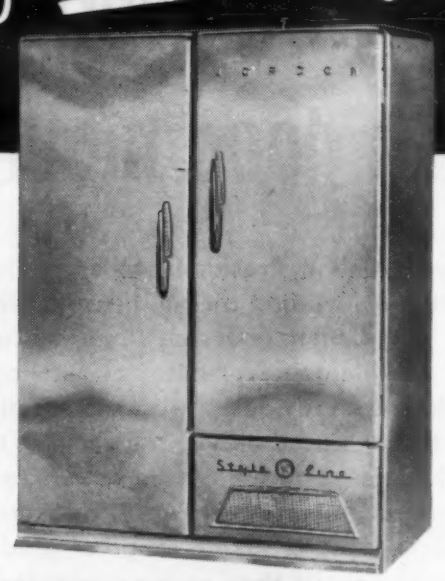
SIDNEY, Ohio — Terrell J. Small has been appointed district sales representative of Copeland Refrigeration Corp. for Texas and Oklahoma, W. G. Von Meyer, sales manager, announced.

T. J. Small

Small has been actively associated with air conditioning and refrigeration manufacturing, sales, and distribution programs for eight years. He most recently was manager of the air conditioning department of Lennox Furnace Co., Fort Worth, Texas.

He was graduated as a mechanical engineer from the University of Texas.

Make More Sales—More Profit per Sale!



Model SJ-25
STAINLESS STEEL REACH-IN REFRIGERATOR.
Also available in White Enamel—Model WJ-25.

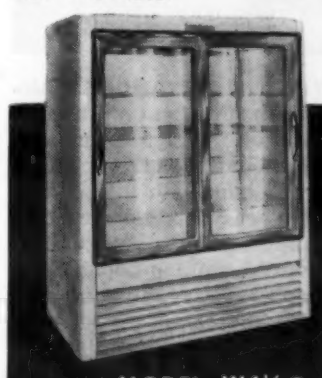
Model SJ-62
STAINLESS STEEL REACH-IN REFRIGERATOR.
Also available in White Enamel—Model WJ-62.

JORDON Style-Line REACH-INS

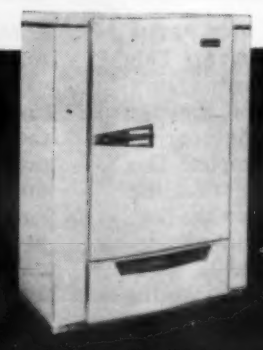
Beauty that Sells on Sight!

New for 1956, the Jordon line of Reach-Ins features all the world-famous Jordon engineering advances, housed in the most beautiful exterior design in the industry.
Jordon dependability plus Jordon beauty are combined here to meet every customer's requirements ... and help you *make every sale!*
For your full share of Jordon profits, stock the complete Jordon line! Other Reach-In models include SJ-20, WJ-20, SJ-30, WJ-30, SJ-45, WJ-45, SJ-35, WJ-35, SJ-60, WJ-60. Remote models also available.

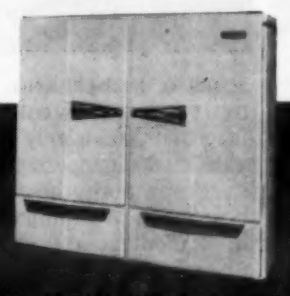
WRITE FOR FREE CATALOG TODAY!



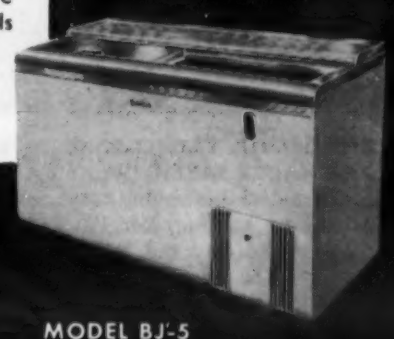
MODEL W4½G SLIDING DOOR WALL CASE
with exclusive Plastrone non-sweating door frame.



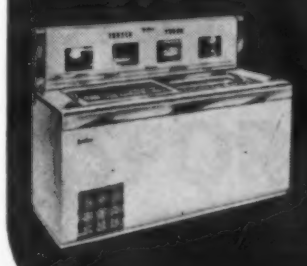
MODEL CF-30 DELUXE UPRIGHT FREEZER
holds approximately 1,000 lbs. frozen foods!



MODEL W20/20 COMBINATION REFRIGERATOR-FREEZER



MODEL BJ-5 ROCKET BEVERAGE COOLER
flat-top model with slide-back or lift-out doors, for dry cooling.



MODEL M-17 FROZEN FOOD MERCHANDISER.
17 cu. ft. Also available in 26 cu. ft

JORDON REFRIGERATOR COMPANY
7900 Tabor Rd., Phila. 11, Pa
FIdelity 2-7700

JORDON REFRIGERATOR CO.
7900 TABOR ROAD
PHILADELPHIA 11, PA.

Yes, we'd like to see your new 1956 catalog!

Name_____
Position_____
Company_____
Address_____
City_____ Zone____ State_____

Display Truck Promotes Heating Equipment

Baseboard Radiation Featured on Tour

BALTIMORE—A new heating equipment promotion idea was revealed recently by General Automatic Products Corp. here.

Featuring "Floorlevel" hot water baseboard radiation and a complete line of oil and gas-fired units, a display truck is on tour of the nation to demonstrate uses of GAP equipment, it was reported.

Slides illustrate the story of Floorlevel heating when the display truck is used in meetings with officers and buyers of supply houses.

GAP believes this to be an entirely new concept in promoting heating equipment.

INTERIOR OF TRUCK which displays "Floorlevel" hot water baseboard radiation and a complete line of oil and gas-fired units of General Automatic Products Corp. on tour.

Weather Contest Is Top Feature In American-Standard Promotion Package

PITTSBURGH—A new "Boiler-Maker Campaign" to stimulate fall sales of heating equipment moved into high gear this August when the first of a series of full-page advertisements appeared in the *Saturday Evening Post.*

The new program, prepared and developed by American-Standard, is an expanded version of last year's highly successful seasonal promotion in which 3,368 heating retailers participated, it was explained.

This year, heavy emphasis has been placed on producing modernization sales leads for greater volume and increased profit at both the distributor and dealer level.

To achieve this goal, American-Standard is offering the dealer at less than half of actual cost a complete promotional package which he can employ with minimum effort on his part.

Among the elements provided are: an automatic direct mail program, local newspaper advertising, integrated national magazine advertising, distributor and dealer co-op ads offered at special terms during the campaign period, radio and TV commercials, an attention-getting sales demonstrator, poster-streamers, publicity releases, telephone solicitation messages, a weather forecasting service, and a packaged consumer contest.

Full-page advertisements in top-circulation consumer magazines lend heavy support to the campaign, as will a substantial program of newspaper advertising. The latter has been expanded this year to include two insertions of 820 lines each in 69 newspapers across the entire northern portion of the country.

Participating contractors in any of these key cities are listed automatically in the ads. Contractors located in cities not covered by this schedule will receive additional direct mail coverage.

Two weather forecasts for the contractor's specific region during the month of October are part of the campaign package.

"These enable each dealer to scientifically plan his local promotion for the most opportune time," it was pointed out.

A "Forecast the Weather Contest" is also included in the promotion "as a sure-fire method to create customer interest and to build an excellent list of prospects."

Top prize in this contest is an American-Standard "Empire" or "Arcoliner" boiler, awarded by the retailer. To receive this, the winner must accurately predict Thanksgiving Day weather conditions in the contractor's city.

The complete promotion package Kit "A," is priced at $15.

Donnelly Rejoins A. O. Smith Corp.

MILWAUKEE — The A. O. Smith Corp. announced recently that James F. Donnelly, formerly assistant manager of its Permaglas Div. at Kankakee, Ill., has rejoined the company as special assistant to F. S. Cornell, vice president and general manager. For the last three years Donnelly has been a vice president of Servel, Inc.

"Donnelly will work closely with us in the development of several important aspects of trade relations for A. O. Smith," Cornell said. "He will devote particular attention to working with the Permaglas Div. management in furtherance of our consumer products activities, such as domestic and commercial water heaters, residential heating, and gas air conditioning."

Donnelly originally joined A. O. Smith in 1944 as sales manager of its gas water heater operation.

WORTHINGTON DEALERS ARE SUCCESSFUL DEALERS!

"Signing up with Worthington was a good move"

. . . says Richard H. Catlett, President of the Catlett-Johnson Corporation, Virginia's leading air conditioning and refrigeration dealers. Mr. Catlett goes on: "In the eight years we've had the Worthington franchise, our dollar volume has more than doubled. Previously, we were identified with another nationally advertised brand. The decision to change was not easy, but the results have been very gratifying. We've expanded our business as a result of Worthington's unrestricted franchise and complete range of products. And Worthington is one outfit that *never* competes with its dealers."

RALPH E. ORCUTT, CATLETT-JOHNSON'S SALES MANAGER SAYS: "Worthington promotion material is second to none — it helps us do a bang-up job. I'm enthusiastic about the way the Worthington people — and the sales aids they create — help us locate prospects . . . and turn them into sales. Worthington's staff of merchandising experts have given us a big hand in the development of a sound dealer program. And Worthington's national reputation helps a lot."

JOHN C. HILDEBRAND, JR., VICE PRESIDENT & CHIEF ENGINEER, SAYS: "The fact that I can rely on Worthington's published engineering data and ratings saves me many hours of engineering time. And Worthington's complete line of equipment allows me to select the units I know will be best for the job. Reciprocating and central station systems, year-round residential units, packaged air conditioners, add-ons—Worthington's got *everything!*"

J. TABB MEYER, JR., OPERATIONS MANAGER, SAYS: "Worthington units are extremely compact, well-designed, and easy to install almost anywhere. You can see the equipment is built with the serviceman in mind — easy accessibility cuts down our maintenance and service time. And Worthington's million-dollar compressor just can't be beat for day-in, day-out reliability. On the off-chance that something may go wrong, Worthington's five-year warranty takes care of it."

Catlett-Johnson's story — like so many others we've received — adds up to this: Worthington dealers are *successful* dealers. And there are plenty more reasons why. Lots of them are mentioned in Worthington's new monthly publication, "The Merchandiser". Write for it today. Worthington Corporation, Air Conditioning and Refrigeration Division, Section A.5.37-AC, Harrison, N.J.

A.5.37

WORTHINGTON

THE BEST FRANCHISE . . . THE MOST COMPLETE LINE

For more information about products advertised on this page use Information Center, page 28.

2-Way System Combines Conditioning With Ceiling Heating, Cooling Coils

KALAMAZOO, Mich.—An unusual combination of air conditioning and ceiling heating and cooling coils has been installed in the new Kalamazoo headquarters building of the Detroit Automobile Inter-Insurance Exchange and the Automobile Club of Michigan.

Providing the benefits of the two types of heating and cooling, the system uses ceiling coils to circulate hot water for winter radiant heating, chilled water for summer cooling.

In conjunction with this, a 30-ton United States Air Conditioning Corp. DRK packaged central station unit provides conditioned cooled or heated air for the two main floors.

Combination Provides Even Heating, Cooling

Such a combination, it was stated, provides an evenness of heating and cooling, and significant economies in operation. It also circulates fresh, tempered, and filtered air of the right humidity throughout the offices, according to UsAirco.

A supplementary UsAirco type C-212 unit air conditioner is used to heat and cool the basement.

In the summer, a UsAirco 25-ton RKC packaged chiller cools water for the system. Water is kept at a temperature above the dewpoint to prevent sweating of pipe coils.

As well as circulating through the main office ceilings, the chilled water is also run to the C-type unit in the basement through a 10-row water coil for the dual-system cooling in this area.

In winter, hot water is similarly run through the system, and to a coil in the UsAirco DRK unit to heat the conditioned air.

Green Plastic Sunshades Aid Cooling System

As an aid to the cooling system, Louis C. Kingscott & Associates, architect, has used sun shades of green corrugated plastic in aluminum frames over strip windows on the south and east sides of the building, with a blank west wall.

A large expanse of floor-to-ceiling glass, fronting half the first floor—the area occupied by the Automobile Club—is shielded from the heat of the sun by a wide overhang.

The functional buff brick building has 25,000 sq. ft. of floor area, two stories and a basement. In addition to the Automobile Club space, the first floor has a lounge and visitors' waiting room, and offices of the Detroit Automobile Inter-Insurance Exchange. The Exchange also occupies the entire second floor.

The basement is devoted to a fully equipped snack and lunch room and employes' lounges.

The structure of the building permits great flexibility in interior arrangement. Floors are cellular steel decks, which combine electrical ducts and provision for electrical outlets every four feet. Movable metal partitions divide the areas into the required office spaces, the company said.

General contractor for the building was Miller-Davis Co.; the mechanical contractor was Miller-Davis Plumbing & Heating Co.; and the refrigeration contractor was Tony's Refrigeration.

Neighbors Named To Atlanta Post For Carrier Div.

ATLANTA—The appointment of William A. Neighbors as Atlanta district residential sales manager for the Unitary Equipment Div. of Carrier Corp. was announced here recently by Corwin Robertson, division district manager.

Neighbors succeeds Tom Ware, who joins Carrier-Houston Corp., the company's newly-formed distribution subsidiary which is handling Carrier Unitary Equipment Div. products in the Houston, Texas trading area.

Neighbors joined Carrier in 1952 at the company's office in Jacksonville, Fla. where, for the past three years, he has acted as assistant to the branch manager.

Gas-Powered Chillers Condition 13-Story Building

LOS ANGELES—One of the largest cranes west of the Rockies was used to hoist water-chilling equipment atop Southern California Gas Co.'s 13-story building here for a floor-by-floor air conditioning installation.

The crane has a 155-ft. long boom.

The entire building will be air conditioned with 18 25-ton Servel absorption-type water-chilling units.

The units, operated on steam produced by a gas-fired boiler, are light enough in weight that they could be enclosed in a penthouse on the roof of the Southern California Gas building, it was further noted in the utility's announcement.

Pearson and Henn Form Carrier Dealership

FORT WAYNE, Ind.—Recently-formed Pearson and Henn, Inc., will act as a full line dealership for Carrier Corp. products here, it was announced.

Robert S. Pearson and Carden S. Henn will engage in general mechanical contracting and service work in the refrigeration, air conditioning, heating, and ventilating field for Allen county.

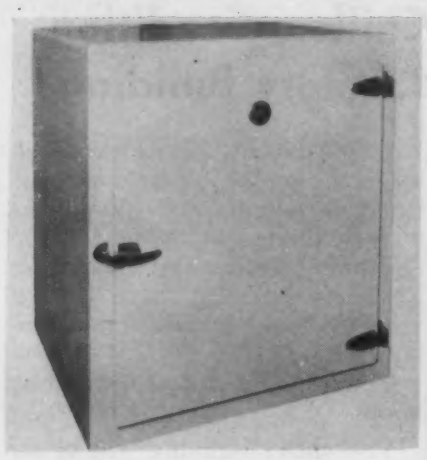
Each has been active in this work for several years.

Hotel To Be Conditioned

COLUMBIA, S. C.—The contract for air conditioning of the plush "Laurel Hill Highway Hotel," a two-story, 24-unit structure, has been awarded to the Air Control Engineering Co.

Sign Up SPORLAN'S CHAMPIONSHIP TEAM
for
PEAK PERFORMANCE
throughout your entire
AIR CONDITIONING
SEASON
because
like any Top Team
SPORLAN
offers you
PEAK PERFORMANCE
at Every Position...
in the AIR CONDITIONING FIELD
Position 1
The Catch-All is the perfect filter-drier, assuring you clean, dry, acid-free, sludge-free refrigerant!
Position 2
Nothing can touch the Peak Performance of Sporlan's Solenoid Valves. They're tight closing, their coils are layer wound and so well insulated, they defy electrical failure!
Position 3
No hunting here, thanks to Sporlan's Thermostatic Expansion Valves with Flow Master elements. You can be sure of Peak Performance without ever worrying again about alternately flooded and starved evaporators!
Position 4
Sporlan Peak Performance Distributors have a perfectly designed nozzle and conical button to assure uniform distribution to all circuits.
So Remember, when you're lining up your positions for a championship air conditioning team... Buy Sporlan Right-Down-The-Line and get Peak Performance throughout your entire air conditioning season.
SPORLAN
SPORLAN VALVE COMPANY
7525 SUSSEX AVENUE ST. LOUIS 17, MISSOURI
Export Department: 89 Broad Street, New York 4, New York

Gloekler Announces Midget Dairy Bar, Cooler



—KEY NO. E-1030—

ERIE, Pa.—Gloekler Refrigerator Co. here recently announced a new midget dairy and service bar and a midget storage cooler for such limited space applications as highway stands, motels, and clubs.

The all-metal dairy and service bar has 24.5-cu. ft. capacity and will handle any type of standard refrigeration storage including bottled beverages, according to the manufacturer.

Front is stainless steel, while the interior is heavy-gauge, zinc-coated sheet steel with adjustable wire shelf. Entire unit is insulated with glass fiber. A heavy-duty blower circulates cold air.

Syrup wells have chromium-plated pumps with matching hinged tops on fruit wells. Units are available with or without syrup rail.

The service bar measures 42½ in. high and 60 in. long.

The storage cooler, measuring 54½ in. high and 35⅛ in. wide, provides a temperature range from 34° to 42° F. The cooler is available in 14.5 or 22.2-cu. ft. capacities.

Using a ¼-hp. compressor either self-contained or remote, the cooler features a two-way blower.

Drain Offered for Use Under Air Conditioners

—KEY NO. E-1031—

MICHIGAN CITY, Ind.—Josam Mfg. Co. here announces a new floor drain, with funnel strainer, for use in floors under air conditioning units where the waste from the air conditioning unit must drain directly into the waste line.

The drain is inserted so that the drain pipe from the air conditioning unit ends just above the top of the funnel, leaving an air gap between the bottom of the pipe and the top of the funnel.

"In the event of back flow through the floor drain, the flow will come up through the strainer portion around the funnel and cannot contaminate the drain pipe of the fixture which drains into the funnel, because of the air gap," the company said. "Thus sanitary and safety factors are increased."

The funnel strainer is brass. It is adjustable to compensate for variations in floor thickness.

Carrying Roll for Hand Tools Offered

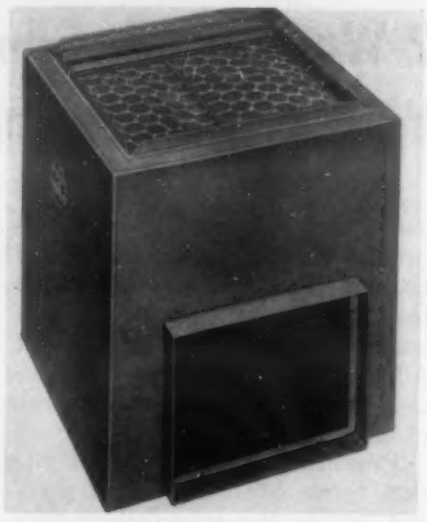
—KEY NO. E-1032—

DETROIT—Recently introduced by Handi-Roll Co. was a water repellent canvas roll to facilitate carrying of hand tools, the company reported.

Making the carrying and selection of tools easier, it consists of pockets of varying lengths and widths, including one with a locking flap, a carrying handle, and a loop strap which holds the roll securely together.

Sturdily sewn, the Handi-Roll comes in two sizes. The senior model has 24 pockets designed to hold tools 12 in. long or less. The junior contains 16 pockets and holds tools 10 in. long or shorter, the company said.

Furnace Blower Package Introduced



—KEY NO. E-1033—

CLEVELAND — Recently introduced by Viking Air Conditioning Div. of National-U. S. Radiator Corp. here was a low-cost 9-in. furnace blower package for small homes with gravity warm air heating systems, the company announced.

The square packaged blower-filter unit converts gravity furnaces rated from 60,000 to 100,000 B.t.u./hr. input into forced air furnaces. It is compact with dimensions 26 in. high, 20 in. wide, and 22 in. deep, and will pass through small doorways and fit in tight spots.

Designated the 309, the blower package is shipped assembled with a 9-in. blower with full-width wheel, ⅛-hp. motor and pulley, blower pulley and belt, feet attached to the blower housing, and a standard-size 16 in by 20 in. disposable-type filter.

THE FIRST... THE FINEST
NOW... BETTER THAN EVER...
ALL AT ONE LOW PRICE!

INTERNATIONAL
AIR CONDITIONER COVERS
made of Firestone Velon

4,500,000 that's how many air conditioning units experts predict will be in American Windows this year. Protecting them is big business. Get it for yourself with the first, the finest, International Covers, made of trouble free, heavier gauge, genuine Firestone Velon. Write for the facts today!

28 styles to fit every leading make from ½ to 1½ ton. 1951 to 1955 models.

INTERNATIONAL COVERS
FOR AIR CONDITIONERS CORP.
532 Broadway, New York 12, N. Y.

Information Center

For *more information* on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

Products Advertised

(list name, page, and issue date)

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WHAT'S NEW OR CURRENT LITERATURE AVAILABLE

Key No. ..... Key No. .....
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Key No. ..... Key No. .....

(PLEASE PRINT PLAINLY)

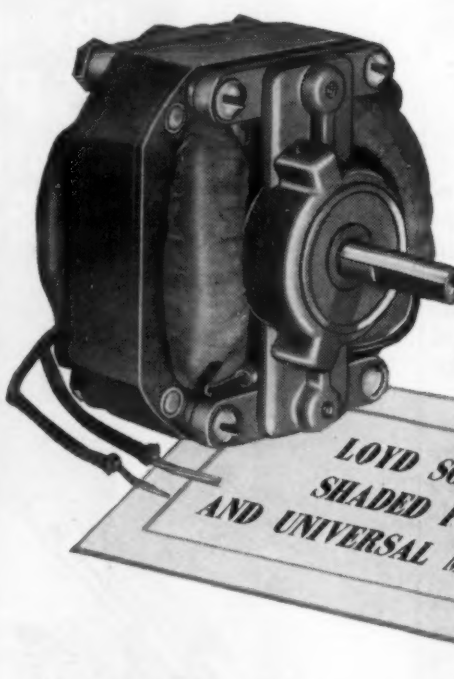
Name ..... Title .....
Company .....
Street .....
City..... Zone..... State.....
Type of Business .....

MAIL THIS FORM TO
AIR CONDITIONING & REFRIGERATION NEWS
Readers Service Dept.
450 W. FORT ST. DETROIT 26, MICHIGAN

Interested in Refrigeration or Air Conditioning?

Then you should see this new Bulletin on Frick "ECLIPSE" compressors . . . the world's finest line of commercial and industrial refrigerating machines. Full range of sizes—from two to nine interchangeable cylinders . . . for use with all standard refrigerants. Maintain any temperature from 140 degrees below zero to 80 degrees above. Over 70 years' experience built into them. Write today on your firm's letterhead for Bulletin 100.

DEPENDABLE REFRIGERATION SINCE 1882
FRICK CO.
WAYNESBORO, PENNA. U.S.A.



called upon by manufacturers of nationally famous products

Gray AUDOGRAPH V electronic dictation equipment needed a noiseless motor to achieve High Fidelity voice reproduction. A Scruggs 4-pole shaded pole motor, tailored to their specifications, met the need for quiet operation and long life.

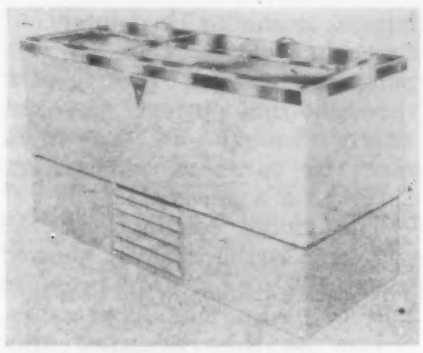
Take a tip from GRAY, only one of the leading manufacturers who take advantage of Scruggs aid in developing better products. Give us your specs . . . a Scruggs motor will be tailored to fit them. Write Loyd Scruggs Co., Festus, Missouri.

You can stake your reputation on SCRUGGS MOTORS

THE Loyd Scruggs COMPANY
FESTUS, MISSOURI

MANUFACTURERS OF PRECISION INSTRUMENTS SINCE 1934

For more information about products advertised on this page use Information Center, page 28.



Ideal Milk, Beverage Cooler Is Self-Serve

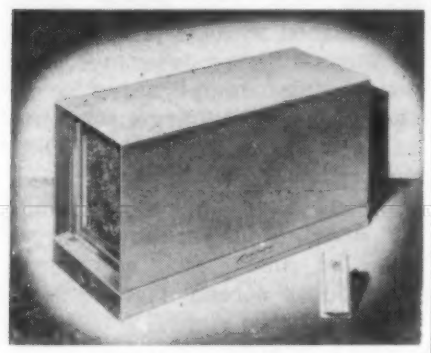
—KEY NO. E-1034—

ST. LOUIS—A new self-service milk and beverage cooler was recently introduced by Ideal Cooler Corp. here.

Named the FB-6S, the cooler is 66½ in. long, 28 in. wide, and 35 in. high. It has six refrigerating dividers and five compartments with a capacity of 620 ⅓-qt. milk cartons, or 17½ cases of 12-oz. bottles.

Four sliding stainless steel doors are easily removed and may be left off during rush periods. A ¼-hp. self-contained condensing unit powers the cooler.

A modified version, FC-6S, has two sliding lids and counter top.



Electric Humidifiers Give Positive Control

—KEY NO. E-1035—

MADISON, Wis.—Two additional models in the "Aprilaire" automatic electric humidifier for forced air furnaces are announced by Research Products Corp.

Both models are controlled humidistat and provide humidity only when needed. They utilize the same principle—water is passed through an evaporating pad, where it evaporates and is introduced into the building as vapor. Each has independent heat source to evaporate the water.

The portable model requires no installation and is designed for use in places where permanency is not desired. The universal is installed between joists in the basement or crawl space—with ductwork to either floor or wall mounted intake and exhaust registers.

High capacity, the manufacturer claims, is an important feature of these models. There is positive control for maintaining proper relative humidity.

Tool Aids Fitting Of Sheet Materials

—KEY NO. E-1036—

LANCASTER, Pa.—Now available through Merchandising & Mfg. Associates, Inc. here is the New Contour Scriber which assures a fit on any sheet material, tiling, linoleum, wood, plastics, or sheet metal, according to MMA.

The tool enables the user to scribe his material accurately for fittings around pipes and cabinets.

Scruggs Motor Geared For Vending Machines

—KEY NO. E-1037—

FESTUS, Mo.—Loyd Scruggs Co. recently announced development of a new geared motor specifically engineered for use in rotisseries, vending mechanisms, rotary display units, actuating devices, and dispensers.

This motor is a compact, sub-fractional horsepower speed reducer, powered by a 2-pole shaded-pole induction motor and equipped with a fan for cool operation under high temperature conditions.

Horsepower of the basic motor is available from 1/500 to 1/75 with output speeds from 1 r.p.m. up. The basic induction motor is available without gear housing.

Bulman Introduces Island Display Stand

—KEY NO. E-1038—

GRAND RAPIDS, Mich.—Bulman Co., Inc. here announced it has introduced a new line of fixtures designed for equipment accessory and hardware stores, and food markets.

Called the "Universal" line, it consists of "I-beam" standards, lightweight reinforced brackets for steel shelves, with 1-in. moldings for price tags. The one-piece shelf bracket inserts in the display standard without tools, nuts, or bolts, and is adjusted easily, the manufacturer stated.

Enamel-plate finish on metallic shelves is also featured. It is Bonderized for greater adhesion and resistance to corrosion. The Sign-O-Lite canopy is available.

Three color combinations are available in pearl gray and foam white backs with two-tone gray, green or cameo.

Ice Cream Cabinet Has Automatic Defrost

—KEY NO. E-1039—

UTICA, Mich.—Freez-Rite Div., Bailey & Perkins Co. here, recently announced a new ice cream display cabinet with automatic defrost.

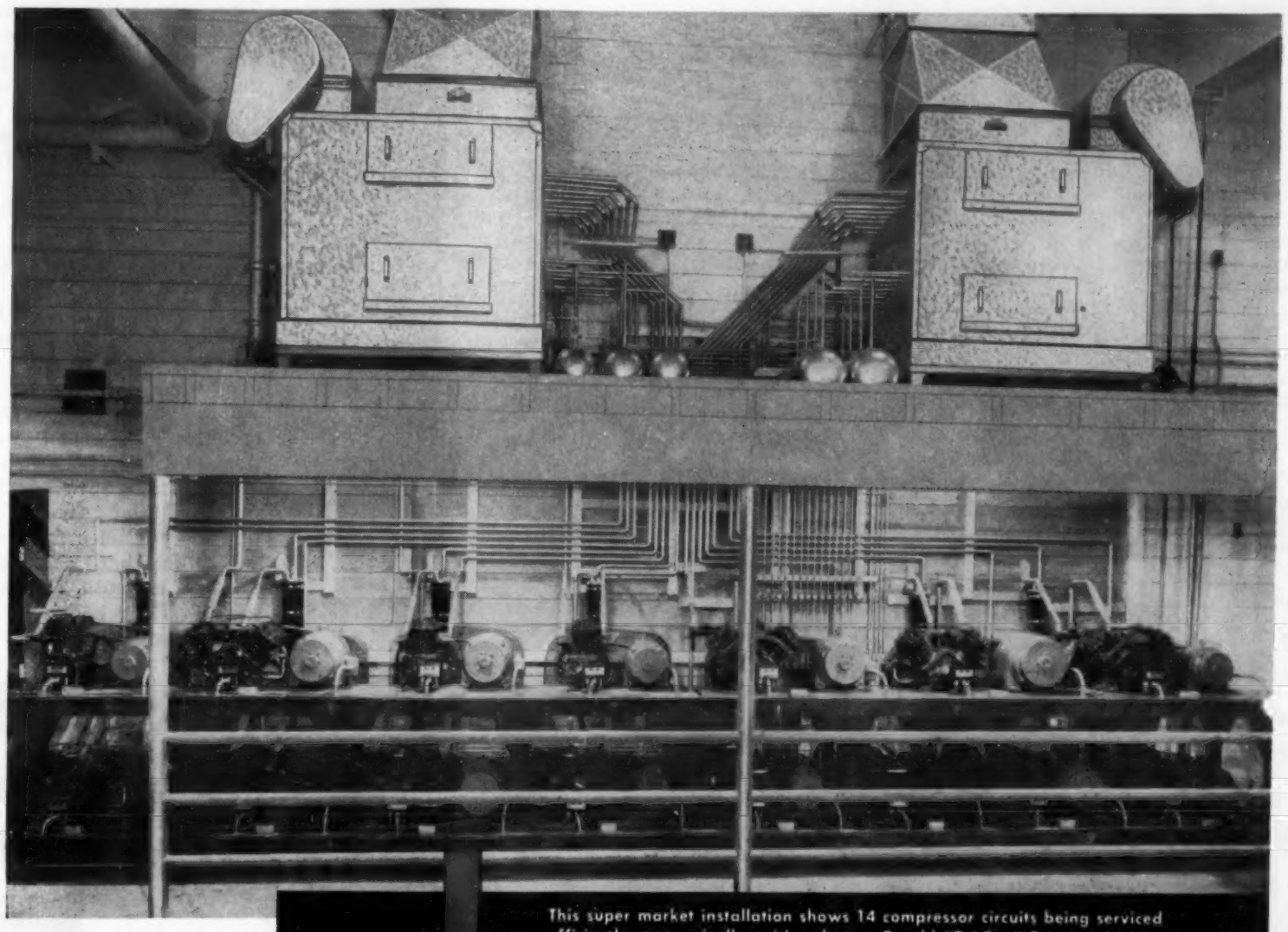
Defrosting occurs in the entire

coil simultaneously due to a new design of heating mechanism, according to the manufacturer.

There are no fans, expansion valves, or solenoid valves.

The cabinet's welded aluminum liner is leakproof.

Built in two models, the 79-in. long one holds approximately 800 pints of ice cream, the other, 59 in. long, containing about 517 pints. This model has a static condenser which will not plug with dirt, requires no cleaning, the company said.



This super market installation shows 14 compressor circuits being serviced efficiently, economically, with only two Recold "Dri-Fan" Evaporative Condensers. Additional circuits are available.

"DRI-FAN" ELIMINATES CORROSION PROBLEMS

Instead of drawing highly saturated air through the fan, Recold uses the forced draft principle to blow dry air through the condenser. The fan, being in the dry air stream, is not subjected to constantly moving moist air which causes corrosion, scale.

"Dri-Fan" Cooling Towers provide same advantageous construction.

It Pays to Specify

RECOLD "DRI-FAN" EVAPORATIVE CONDENSERS

Long life at low cost

- Engineered for quiet operation.
- Patented access doors to spray nozzles, tube bundle and sump pan slide open—no fasteners, no gaskets.
- All panels easily removable—water tight without gaskets.
- Patented, positive funnel controls bleed accurately—can't clog.
- Desuperheat coil available.
- Eliminator pulls out like a drawer.
- Galvanized construction.
- Easy to install and service.
- Available for Freon 12, Freon 22 and ammonia.
- Capacities from 5 to 150 tons.

Recold

"DRI-FAN" Trade Mark registered

For illustrated folder on RECOLD "DRI-FAN" *Evaporative Condensers or Cooling Towers, write to your Recold distributor or to...*

REFRIGERATION ENGINEERING, INC.

Dept. K44

7250 EAST SLAUSON AVENUE, LOS ANGELES 22, CALIFORNIA

For more information about products advertised on this page use Information Center, page 28.

SLANTS ON SERVICE

"Slants on Service" is a "package" devised by the NEWS to meet the needs of its busy readers in the service and contracting business.

We Repeat: 'Gauges Don't Tell Whole Story'

Gauge Readings Questioned

Columbus, Ohio

Editor:

In the Aug. 22 issue of AIR CONDITIONING & REFRIGERATION NEWS a service problem was discussed under the heading "Slants on Service."

There are a couple of points which I do not understand and I would appreciate further information on the article. The statement is made that the gauges showed the correct operating pressures but the job was not cooling. The other statement contained an implication that the compressor discharge line was at a higher temperature than normal because the serviceman received a rather severe burn.

The article explained that the compressor suction port was restricted due to rust collecting in the strainer.

It appeared to me that if the suction line was restricted to the point that no cooling was being done, then the gauge pressure on the suction side would have been higher than normal operating pressure. It would also seem that if the compressor is not pumping gas, the compressor discharge line would be cooler than normal and would also reflect lower pressure.

CLAUDE C. KIRK

* * *

Is Burn Possible?

Pittsfield, Mass.

Editor:

Please be good enough to tell me how a person can possibly get a severe burn when the machine is not pumping at full capacity.

MEYER GARBARSKY

* * *

Reader Takes Exception

Bradenton, Fla.

Editor:

Being in an argumentative frame of mind, I must take issue with the article "Gauges Do Not Tell the Whole Story." For many years they (the gauges) have been telling me that "stopped-up-screen" story.

Simply connect the compound gauge and then close the suction service valve and stop compressor simultaneously. (Some practice and more than one attempt may be necessary).

If crankcase pressure is lower than suction line pressure, gauge will creep downward after compressor stops, providing the suction service valve holds, of course.

Many compressors have oil test ports that will take a flare fitting. A gauge on the crankcase would read lower than the suction line pressure if a restriction existed between the two gauges.

A. R. POOL

* * *

Garthe Explains Burns, Failure of Gauges

Answer: The item referred to in the above letters concerned a 5-hp. compressor hooked up to a used milk aerator in a dairy. The machine was apparently doing little or no cooling although both suction and discharge gauge pressures appeared to be correct. Discharge line, however, was so hot that the contractor, Paul Garthe, received a burn when he accidentally brushed his arm against it.

"Obviously," Garthe explained, "we were working on a very low suction pressure despite the gauge readings, which meant there was a restriction between the gauge port and the crankcase."

It turned out that the compressor inlet screen was full of rust particles from the aerator which had previously been used on an indirect system with water as the coolant.

In commenting on the above letters, it should be pointed out first that the compressor was pumping some refrigerant through the system, but not nearly enough to anywhere meet its rated capacity. Also, this was a water-cooled job.

The gauge readings on the job, as Garthe recalls, showed about 120 p.s.i.g. head pressure and 26 p.s.i.g. suction pressure.

Due to the restricted inlet screen, however, the compressor was actually operating on a lower suction pressure than the 26 p.s.i.g. on the gauge, which represented evaporator pressure in this case.

This condition resulted in a much higher than normal ratio of compression between head pressure and actual suction pressure. The higher compression ratio raised the discharge temperature considerably.

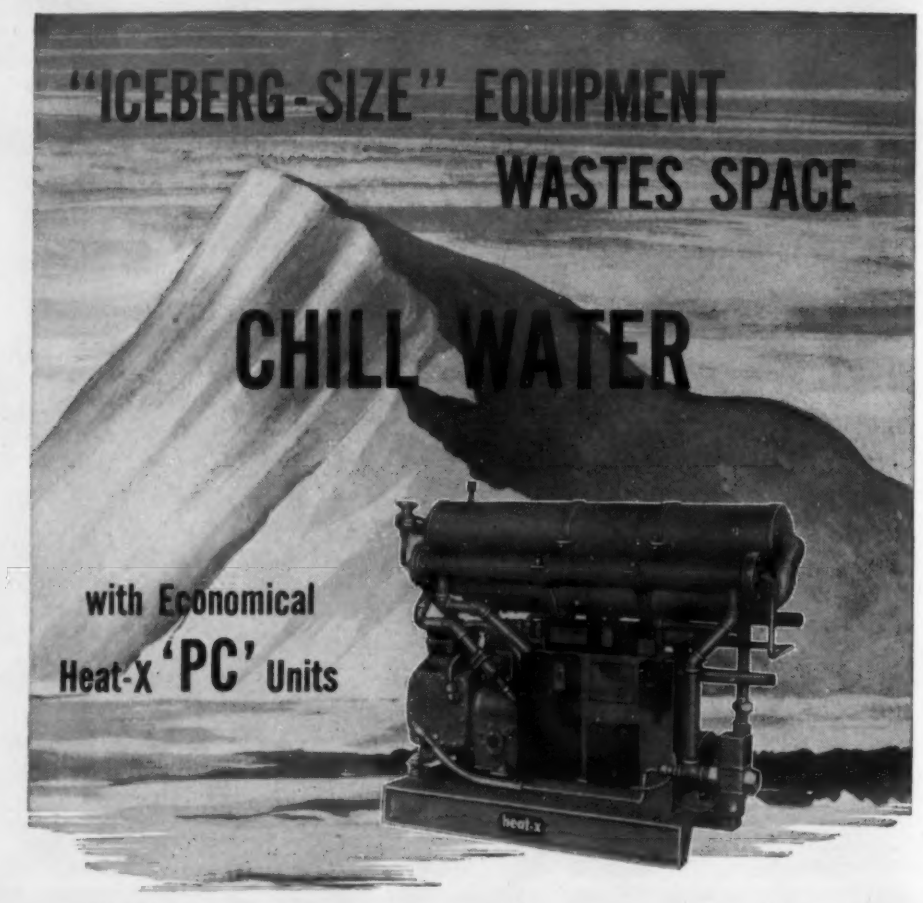
It should also be pointed out that while references are made in the letters to "crankcase pressure," it is actually the pressure in the cylinder we're concerned with here, which is often a great deal different from crankcase pressure.

Because this was a water-cooled job, the water valve maintained what appeared to be a normal head pressure and condensing temperature even though the discharge temperature was much higher than normal.

As for the suggestion made by A. R. Pool on how gauges can be used to indicate a stopped-up screen, Garthe says, "He's exactly right."

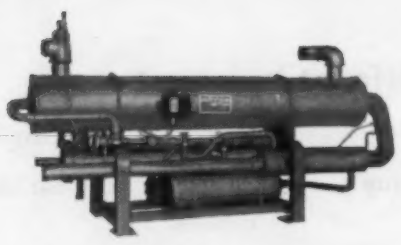
Service Firm Moves

DUNN, N. C.—Electric Motor & Refrigeration Service has moved from W. Broad St. to 105 S. Clinton Ave., Red Gardner, proprietor, has announced.



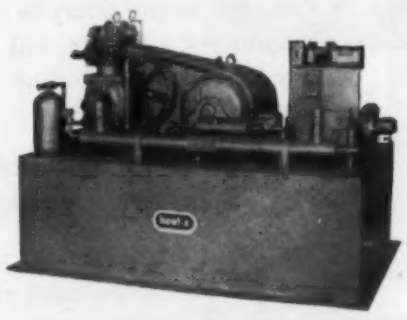
Heat-X 'PC' Units (above) provide the practical, space-saving answer to your water chilling needs . . . for air conditioning systems . . . drinking water or processing applications.

Inner-Fin construction of refrigerant passages, exclusive with Heat-X, permits a compactness impossible with old fashioned construction. Result: greater cooling capacity with far less bulk. Entirely self-contained, these *package* chillers are delivered completely wired, charged with Freon-12, ready to install. Only power and water connections are required. Available in 2 H.P. through 75 H.P. models.



'PCL' UNITS (left) are designed for those who prefer a chiller to which they can tie in their own condensing unit and water pump. Construction is the same as the 'PC' line.

'CCP' UNITS (right) are complete and ready to install, offer another method of packaged cooling. Combinations of cast aluminum coolers provide continuous chilled water, eliminate danger of freeze-up damage. Hermetic compressors carry 5 year warranty.



HEAT-X, Inc.
BREWSTER • NEW YORK

Did you know you could get COLD PLATES like this?

MANY SHAPES
MANY SIZES
MANY METALS

"JOB TAILORED" Dean Cold Plates are the answer to tough refrigeration problems. You can get Cylinders, U's, Angles, Tanks, etc., made *exactly* in the size you need.

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MARSH Instruments

THE SERVICEMAN LINE of Testing Gauges, Testing Thermometers, Timers, etc.

PRESSURE GAUGES and Dial Thermometers for all services.

MARSH-ELECTRIMATIC, Water Regulating Valves, Solenoid Valves.

MARSH INSTRUMENT COMPANY
Sales Affiliate of Jas. P. Marsh Corporation
Dept. D., Skokie, Ill.

For more information about products advertised on this page use Information Center, page 28.

Profitable Ice Cream Stand Outlined In Booklet

——KEY NO. Q-1030——

NEW YORK CITY—Port Morris Machine & Tool Works, Inc., manufacturer of "Electro Freeze" soft ice cream machines, has announced publication of a new booklet on the construction, operation, and maintenance of a soft ice cream stand.

The pamphlet is entitled "What Insures a Profitable Soft Ice Cream Stand?"

Booklet includes information on the material used in the construction of the stand, the outlook for the soft ice cream business, and the requirements necessary for efficient equipment.

Story is reprinted from an article in a national trade publication written by Charles Nasif, an operator with 12 years' experience in the field. An outline of the plans used by Nasif in his 24 by 40-ft. drive-in stand are also included.

Byers Booklet Compares Wrought Iron Pipe Costs

——KEY NO. Q-1031——

PITTSBURGH—A yardstick for measuring basic cost factors in installation of piping systems is contained in a new eight-page, illustrated booklet published by A. M. Byers Co. here.

The new publication, "True Piping Economy," compares wrought iron and other types of pipe in terms of the three costs to consider in buying pipe: initial purchase cost, cost of installation, and cost of maintenance.

Westinghouse Revises Home Wiring Handbook

——KEY NO. Q-1032——

MANSFIELD, Ohio — A new edition of the Westinghouse Home Wiring Handbook has been published, it was announced here recently by W. E. Slabaugh, Jr., manager of contract sales for the Electric Appliance Div.

"The handbook has been revised to bring about an improved approach to determining electric circuit requirements and also to conform to the newly-revised Residential Wiring Handbook of the Industry Committee on Interior Wiring Design as well as the 1953 National Electrical Code," Slabaugh said.

Subjects covered in the 11 chapters and appendix which comprise the handbook are: electrical equipment for the home, degrees of electrical living, electrical circuits, electrical control centers and service entrances, conductors-voltage drop and circuit protection, electrical outlets, communication systems, suggested specification for single family dwellings, estimating electrical costs, terms used in building design and construction, and charts and tables.

The handbook may be purchased for $1 by requesting the Home Wiring Handbook from the Consumer Service Department, Westinghouse Electric Appliance Div., Mansfield, Ohio.

In addition, Slabaugh reported the Westinghouse Home Wiring Estimator is still available from the same source. The estimator contains 25 simplified work sheets that make it easy to design accurate electrical systems for homes. It is available for 25 cents.

Brochure Illustrates Sunroc Water Coolers

——KEY NO. Q-1033——

GLEN RIDDLE, Pa.—An illustrated full-line folder on Sunroc water coolers has been announced by the Sunroc Corp. here. Called Form A-284, the brochure contains individual capacity charts and specifications for each type of cooler. Other charts provide data on water cooler selection.

Industrial Standards for Cooling Towers Discussed

——KEY NO. Q-1034——

PALO ALTO, Calif.—The Cooling Tower Institute has recently issued three publications of industrial standards for recommendation to purchasers and manufacturers of industrial water-cooling towers.

These documents are the result of a five-year research program conducted by the technical committees of CTI, the institute said.

CTI bulletin ATP-105, titled "CTI Acceptance Test Procedure" describes a basic procedure for testing the water-cooling capability of any industrial tower.

CTI bulletin STD-101 titled "CTI Grades of Redwood Lumber" recommends special grades of redwood lumber for use in industrial towers.

CTI bulletin STD-102 titled "Structural Design Data" describes design stress allowables for CTI grades of lumber.

These specifications are not intended to cover comfort air conditioning installations in which towers are matched to intermittently operated refrigeration equipment, Raymond C. Kelly, executive manager of the institute, declared.

All elements of the CTI specifications are compatible with the present drafts of technical society codes covering such equipment, he added.

All bulletins are available at nominal charge from the CTI headquarters here.

Hartzell Catalog Covers 2 Fan Models

——KEY NO. Q-1035——

PIQUA, Ohio—Two new models, a by-pass duct fan and a double-ring reversible fan, are included in the latest propeller fan catalog, A-109A, published by Hartzell Propeller Fan Co. here.

In addition, specifications, dimensions, and performance figures are given in the 48-page catalog on 18 other types of industrial ventilating fans plus intake units, unit heaters, and accessories.

Brochure Illustrates Feed-Thru's, Stand-Offs

——KEY NO. Q-1036——

NEWARK, N. J.—Hermetic Seal Products Co., manufacturer of matched glass and "Vac-Tite" hermetic seals, announces a new four-page brochure on Vac-Tite compression, single terminal feed-thru's, and stand-offs.

The new brochure is said to coordinate standardization of single terminal feed-thru's and stand-offs. The parts illustrated are of Vac-Tite construction.

The new brochure provides technical data and drawings and single terminal feed-thru's and stand-offs illustrated are offered as standard with flanged bodies for easy positioning and soldering. Plain bodies are also available.

The single terminal feed-thru's illustrated have found extensive use in such applications as transformers, relays, coaxial connectors, condensers, and filter networks.

BEACH FRONT GARDENS

AAA-APPROVED MOTEL — ATLANTIC CITY, N. J.

Welcome Conventioneers

Nov. 28 - Dec. 1

Visit Atlantic City's newest, finest motel during the Air Conditioning and Refrigeration Institute Convention. Reasonable rates. Free Parking.

OPEN ALL YEAR

Boardwalk at Massachusetts Ave.
PHONE 4-0444

FIRST IN THE FIELD ON EVERY COUNT!

MUELLER BRASS CO.

Streamline®

all-copper adapters

FIRST developed by the originator of the solder type fitting

FIRST in sales with a record of over *5 million sold in just one year!*

FIRST complete line in both O.D. and fitting ends

In just one year this new Mueller Brass Co. all-copper adapter has set a smashing record on every count . . . engineering, sales and performance. They are available as copper-to-male and fitting-to-male styles in sizes from ¼" to 2⅝". And, the dependability of this fine STREAMLINE adapter is proved by the fact that over 5 million have been put in service in the short space of one year. Many excellent engineering features have been incorporated in these adapters which are produced from heavy wall copper tube. Threads are rolled rather than machined, actually improving the grain structure of the metal and affording greater strength. The pure wrot copper is superior for soldering because heat is transmitted evenly and quickly. The smooth bore and the precision machined stops permit maximum flow. You'll like these new adapters, and the many advantages they offer . . . and you know these "thoroughbreds" will live up to every claim because they're made by the originators of the solder-type fitting. If it's Streamline, it's got to be good.

161-R

MUELLER BRASS CO. PORT HURON 9, MICHIGAN

'Home Comfort Show' Held at Dealership

ST. LOUIS—A "Home Comfort Show" displaying new heating and air conditioning equipment for home and commercial applications will be staged at the company's showroom by Mauller Air Conditioning, Inc., Bryant dealer here.

The exhibit will run from Oct. 15 through Oct. 22 and will be open evenings.

The exhibit will show an "Indoor Climate Control Center," heating and cooling installations for both home and commercial use and automatic controls.

Climatrol Names Don H. Davidson

MILWAUKEE — Don H. Davidson has been named Field Sales Manager for Mueller Climatrol Div. of Worthington Corp., it is announced by Frank J. Nunlist, Jr., vice president in charge of sales.

Davidson

Davidson, formerly sales vice president for Calcinator Corp., will supervise Mueller Climatrol's national sales staff.

Redmond
MICROMOTORS
One of largest stocks in the world!
FACTORY DISTRIBUTORS
MARVIN L. "FERGIE" FERGESTAD
CYCLO-FREEZE CORP.
6318 Cambridge, Mpls. 16, Minn.
West 9-6794

Watchler Named To Olsen Post

ELYRIA, Ohio — Edward P. Hayes, executive vice president of The C. A. Olsen Mfg. Co., has announced the appointment of Willard J. Watchler as laboratory manager.

Watchler was formerly assistant chief engineer for the Elyria manufacturer of residential air heating and cooling equipment.

According to Hayes, the appointment will permit Edward R. Downe, vice president in charge of design and development, to devote increased time to the creation of new products and the improvement of the existing products manufactured by Olsen and its subsidiary, Henry Furnace Co., Medina, Ohio.

Air Condition New Plant

DUBLIN, Ga.—The new Dublin plant of J. P. Stevens & Co., Inc., which will occupy an area of approximately 220,000 sq. ft. on a 300-acre site, will be completely air conditioned.

Central Air Conditioner Installation Time Cut With New Techniques

WICHITA, Kan.—"With central air conditioning gaining in popularity, the need for fast, low cost installation is becoming increasingly important."

So says Dwane Waterbury, manager of Air Conditioning & Engineering Service, Inc. here, central installation service for "Vornado" central systems in the Wichita area.

"By using streamlined techniques and Vornado's new prefabricated ductwork we have been able to cut installation time and keep the cost low," he stated.

The firm's two-man crew, it is claimed, can completely install a Vornado central air conditioner, run ductwork into all five rooms of a new home, and finish the job in exactly eight hours' time—16 man-hours of time. Four additional man-hours are required to install diffusers and thermostat and equalize room to room temperatures.

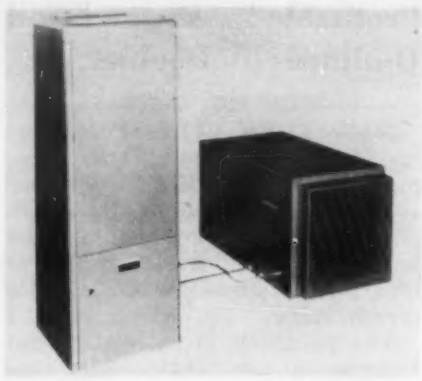
The company has developed a system of ductwork assembly and in-shop efficiency that lets its two-man crew spend a minimum amount of time actually installing the unit and ductwork, it was pointed out.

All ductwork, including the cold air downspouts, is made up in the shop. The company uses two girls for assembling Vornado's Fiberglas ductwork. Ceiling openings for the Vornado cold air inlets require framing, and this is all prefabricated at the shop, ready to set between rafters by the men on the job.

Allen Named to Post

MIAMI, Fla.—S. E. Allen has been named general manager of the air conditioning and heating division of the Florida Gas & Equipment Distributors, Inc.

Allen, an engineer, has devoted more than 30 years to the air conditioning and heating field.



Perfection Making Home, Commercial Central Units

CLEVELAND—In the central air conditioning business with its own cooling units is Perfection Industries, Inc. here, it was announced.

First new models coming off the production line include 2 and 3-ton air-cooled residential and commercial units and 2 and 3-ton water-cooled residential and commercial units.

There are a total of eight of these new models, designed for installation in the home or in places of business where spot cooling is needed.

"Except for fan types, both the residential and commercial units have the same basic design, which makes it easy for the sheet metal installer to shift from the residential to the commercial installation," the company said.

Residential models use a centrifugal-type blower while the commercial units use propeller-type fans.

"Both the commercial and residential air-cooled units have a remote condenser section connected to the evaporator or cooling section by means of copper tubing and quick disconnect fittings," it was explained.

"The hermetically-sealed and fully-charged coils have quick connects at each end so that field connection of the refrigeration lines to the remote condenser is accomplished in a matter of seconds. And, should servicing of the refrigeration system be required at any time, the disconnect reseals as the connection is loosened.

"On all air-cooled models, the full rated capacity is delivered at 95° ambient temperatures.

"These Perfection central cooling units, which use 'Freon-22' as the refrigerant, come completely wired. All that is necessary to bring the 230-volt line into the unit and run the transformer and thermostat lines to the unit.

"These central air conditioners may be used by themselves or in conjunction with the forced warm air heating system, utilizing common ducts and registers."

Perfection engineers emphasized installation flexibility of the units. They may be installed in 30 different ways for upflow and downflow operation, according to the company.

Casings of residential models are finished in "Silvertone Brown" baked enamel. Commercial units are finished in "Canterbury Gray."

The 2 and 3-ton units, both residential and commercial, are identical in physical dimensions, and occupy only 22 sq. in. of floor space, it was stressed by the company.

The Industry Demanded It
FRASER & JOHNSTON Did It

NOW A MODERN GAS-FIRED FURNACE WITH AIR-CONDITIONING COILS TO MATCH!

SAVE TIME—LABOR—MONEY

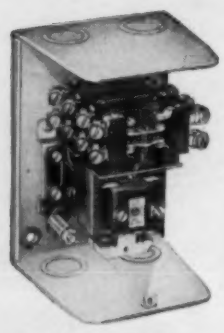
UPFLOW—DOWNFLOW—HORIZONTAL TYPES

ATTRACTIVE OPPORTUNITY FOR MANUFACTURER'S REPRESENTATIVES—DISTRIBUTORS—MAJOR CONTRACTORS

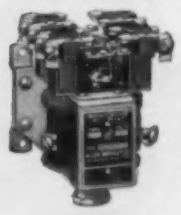
A COMPLETE LINE

FRASER & JOHNSTON CO.
AIR-CONDITIONING DIVISION
1900 17TH ST.
SAN FRANCISCO, CALIF.

SOLVE YOUR SPECIAL RELAY PROBLEMS
with these
STANDARD A-B RELAYS



Relay in Enclosure



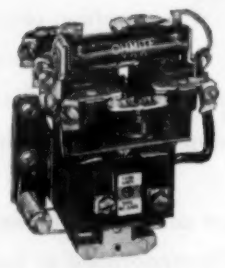
D-C Relay

Bulletin 700 Relays are small contactors built to the same high standards of ruggedness and performance as the regular Allen-Bradley line of motor controls. Over 300 different types are listed as standard, from 1 to 8 poles, with normally open or normally closed contacts. If you are developing a machine or installation requiring small but dependable magnetic relays, specify Bulletin 700 for a-c applications and Bulletin 200 for d-c applications.

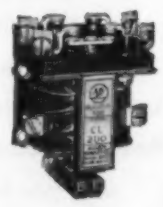
Allen-Bradley Co.
1313 S. First St.
Milwaukee 4, Wis.

In Canada—
Allen-Bradley Canada Ltd.
Galt, Ont.

ALLEN-BRADLEY MOTOR CONTROLS for Air Conditioning and Refrigeration • Manual and automatic across-the-line starters • Compression type velvet smooth starters • Pressure and temperature switches and controls • Relays and contactors from 1 to 8 poles • Push buttons and selector switches.



3-Wire Thermostat Relay



Low Current A-C Relay
For temperature controls with thermostats

A-B Quality
ALLEN-BRADLEY
QUALITY
MOTOR CONTROL
A-B Quality

For more information about products advertised on this page use Information Center, page 28.

Largest Exhibit Ever Set for NAMA Convention, Nov. 6-8

CHICAGO — Just announced by the program committee is the complete four-day convention and exposition program of the National Automatic Merchandising Association to be held in the Conrad Hilton hotel here, Nov. 6, 7, and 8.

"Cavalcade of Service" is the theme of the 1955 show which will include the largest exhibit of new vending machines and vendible products in the association's 19-year history. The whole lower floor exhibit areas of the hotel and a substantial portion of the fifth floor exhibit rooms have been sold to more than 125 exhibitors, the exhibit sales committee said.

Following the convention opening at 2 p.m., Sunday, Nov. 6 in the hotel's grand ballroom, NAMA president, I. H. Houston, will conduct the annual meeting and deliver his address, "Our Association and Our Future."

Grand opening of the exhibit occurs at 4 p.m. Sunday. All exhibits remain open until 7.

The general session Monday, Nov. 7 begins at 9:30 a.m. with a workshop on the "Problems of Owner-Serviced Operations." Six operators will participate under moderator John W. Mock, management consultant. Following this Ken F. Doscher, vice president-sales of Lily Tulip Cup Corp., presents "Mr. Manager—Heel or Hero." Lower floor exhibit halls will be open from 12:30 to 7 p.m.

Beginning at 8 Monday evening, two "Brass Tack" idea-exchange clinics will be held. On concerns itself with a discussion of problems in vending candy, cookies, nuts, and gum. The other includes problems on cup beverage, coffee, hot chocolate, soup, and juice vending.

Tuesday, Nov. 8, the general session at 9:30 a.m. features a workshop on "Automatic Feeding Service," again moderated by John W. Mock. Robert Z. Greene, president of Towe Corp., will speak on "Automatic Merchandising in an Atomic Age."

Lower floor exhibit remains open from 12:30 to 6 p.m. Tuesday, and the fifth floor rooms until 7.

On Tuesday evening, from 7:30 to 9, Dr. Mundie will conduct a special discussion forum on personnel. At 9 p.m. three "Brass Tack" idea-exchange clinics will be held simultaneously on cigarette, milk, and ice cream, and automatic feeding.

All exhibits will be open from 12:30 to 4 p.m. Wednesday.

The annual banquet climaxes the convention. It will be held in the grand ballroom at 7:30 that evening.

NAMA members who register in advance pay no fee. Those who register at the convention are charged $5 a person. Operators, bottlers, dairy, and ice cream company representatives, not members of NAMA, are billed $5 each, while those who wait for convention opening are assessed $10.

Official hotel room applications and advance registration forms may be obtained by contacting O. G. Leach, convention manager, NAMA, 7 S. Dearborn St., Chicago.

'Crystal Tips' Names North Jersey Dealer

MINNEAPOLIS — Appointment of Refrigeration of North Jersey, Dover, N. J., as exclusive dealer for "Crystal Tips" ice makers in six north Jersey counties has been announced by Jay R. Resch, executive vice president of American Automatic Ice Machine Co., a wholly-owned subsidiary of McQuay, Inc., Minneapolis.

Charles Dyson, Crystal Tips representatives of Tenafly, N. J., completed negotiations Sept. 15 with Carl Winnefeld, president of Refrigeration of North Jersey. Winnefeld's firm will cover Sussex, Warren, Morris, Essex, Somerset, and Union counties.

Air Engineering Moves

EVANSVILLE, Ind.—William H. Schrader of Syracuse, N. Y. has been appointed vice president in charge of finance at Servel, Inc.

For the past three years, Schrader has been director, first vice president, and treasurer of Easy Washing Machine Corp.

FTC Sets Stipulation On Kent Ice Machines Advertising Claims

WASHINGTON, D. C. — The Federal Trade Commission has announced its approval of a stipulation agreement which provides Kent Industries, Inc., 2244 S. Michigan, Chicago, and its president, Kent Tomlinson, will not make certain claims concerning the effectiveness of Kent Ice Machines which appear "to be contrary to the weight of the available scientific evidence and expert opinion."

Under the terms the parties will not represent:

1. That Kent Ice Machines produce "Zero-chip ice" or "sub-zero chip ice" or that the temperature of the ice produced is zero or below zero.

2. That the ice produced by Kent Ice Machines is lower in temperature or a more efficient refrigerant than it actually is.

3. That Kent Ice Machines produce ice for $1 per ton or for any unit cost lower than the cost computed on the basis of generally prevailing rates for electrical energy and water.

4. That any equipment sold by Kent Industries, Inc. has been approved by the government.

This stipulation is for settlement purposes only and does not constitute an admission by the parties that they have violated the law.

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WAGNER HIGH-SPEED TESTED COMMUTATORS WILL LAST FOR YEARS AND YEARS
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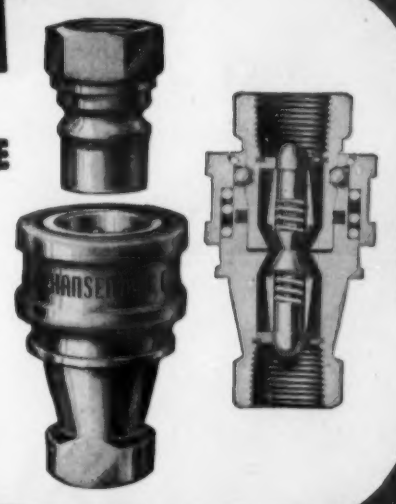

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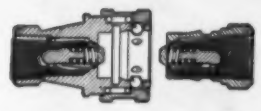

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Refrigeration Problems
And Their Solution
By Paul Reed
For Service and Installation Engineers

Refrigerated Candy Display Cases

Question

"I have recently become entangled with a lot of candy equipment for storage, display, and the conditioning of the rooms in which candy is made and packaged. This has become very interesting work, and I am anxious to learn more about it. Please give me information on the proper temperatures, humidities, and circulation to be maintained in this equipment.

"My present problem is regarding candy display cases. I have been called on two display cases in a department store, that are apparently not very well designed. They are not cold enough in the display section and too cold in the storage section. As a result, we get much sweating of the candy in the storage compartment, especially when it is moved from the storage compartment into the display portion of the case.

"This case is 8 ft. long, 4 ft. high, and 30 in. deep at the bottom, 14 in. at the top. The glass is a single plate and starts 16 in. from the bottom and slants backward to the top, so that in appearance, the case is similar to the closed type meat display case.

"There is about 1½ in. of insulation in the bottom and sides of the case. Between the top and bottom compartments there is a metal plate with holes in it for circulation of the cold air from the bottom compartment. The blower coil is placed in the center of the lower compartment. The condensing unit is a large ¼-hp. air-cooled unit in a unit compartment at one end of the bottom portion of the case. It runs only about 10% of the time.

"It seems to me that the condensing unit is too big, perhaps the coil also. Moreover, some arrangement should be made to get better air circulation to the display compartment.

"With your reply, please give me the names and addresses of companies who specialize in display cases for candy."

NOT ROUTINE TROUBLE

The author of this column knows the writer of this letter personally, and knows him to be a good refrigeration man. Therefore, it is not likely that the difficulty is due to the common, obvious causes, such as low on charge, incorrectly adjusted expansion valve, moisture in the system, strainer stoppage, etc.

Answer

First, something as to candy itself, and the temperatures and humidities at which it should be kept.

The temperature and humidity for candy, also the rate of air circulation, differ widely from those same conditions for meats. Possibly some of the trouble may be that these cases were originally designed for meats and have been modified insufficiently for candy display and storage.

Fresh meats require lower temperatures for short-time storage than do candies. Fresh meats need high humidities; candy, low humidities. Cuts of fresh meats, particularly those in the display section of the case, can stand only low rates of air circulation, otherwise their surfaces tend to dry out rapidly and become darkened; candies can stand much higher rates of air circulation.

There are many different kinds of candies, and they vary rather widely as to the most suitable temperatures and humidities at which they should be kept, especially the humidities. The ingredients of which the candies are made are, of course, the determining factors. Also, the ingredients in some cheap candies increase the difficulty of keeping them in good condition.

REQUIRED HUMIDITIES VARY FROM 40% TO 65%

Generally speaking, candies that contain chocolate, nuts, certain oils, and such fruits as cherries and strawberries, require comparatively low temperatures to prevent deterioration and change in flavor.

These candies also require low humidities—from about 40% to 45%. Other candies that require low humidities are peanut brittle, hard stick, taffy, and others that may become "sticky." For these, low humidities are essential.

Hard creams, caramels, coconut creams, and similar candies may be kept at higher humidities—up to about 50%. Soft creams, marshmallows, and other candies having a soft surface must be kept at somewhat higher humidities—around 60% to 65%, to prevent the surfaces from drying and becoming crusty.

Most candies can stand low storage temperatures. For long-time storage of a year or more they are frequently held as low as 0° F. For short-time storage in the retail sale of candy, a good all-around temperature is about 48° to 50°.

Thus it is not likely that the storage compartments of these cases are being held too cold as far as the candy itself is concerned. Moreover, there should be no sweating of the candy in the storage compartment, unless the air circulation is poor. On the other hand, the storage compartments may be unnecessarily cold, which will cause difficulties when the candy is removed from storage into the warm room, or even into the warmer display compartment.

Another possible cause of sweating of the candies in the storage compartment could be that when the doors are opened, the warm, moist air from the room strikes the cold candy, and, of course, the moisture condenses on the candy.

A remedy for this is to arrange for the warm room air to pass through the blower coil before it can come into contact with the candy. The coil is colder than the candy, and the excess moisture in the air is deposited on the coil instead of on the candy. This good practice is very frequently violated in refrigerated meat and vegetable

(Concluded on next page)

Non-Waxing — Foam-Resistant — unexcelled for all *low*-temperature applications.

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SUNISO REFRIGERATION OILS

For more information about products advertised on this page use Information Center, page 28.

Candy Cases--

(Concluded from preceding page)

fixtures also. The location and type of the blower coil determines this.

HIGH AMBIENT HUMIDITIES AGGRAVATE CONDENSATION

It is not uncommon for department stores to have high latent loads due to the heavy population, especially on sale days, so the humidity may be quite high, particularly in the muggy winter days, when there is no air conditioning equipment in operation to control the humidity.

Packaged candies are much easier to store and handle, but in these cases, most of the candies are probably kept in bulk on trays, the better to display them and to permit selection of assortments. When it is necessary to remove some of the candy from the bottom storage and put it in the display section, it should not be permitted to remain out in the warm room any longer than necessary, for condensation of moisture on the candy is almost inevitable.

NO CONDENSATION IF CANDY IS ABOVE AMBIENT DEWPOINT

If the candy is kept at 48° to 50° it may be above the dewpoint temperature of the ambient air if the latter is kept in the low RH portion of the comfort zone. As long as this is true, there will be no condensation on the candy. If, however, the candy is stored at temperatures below the ambient dewpoint, "sweating" of the candy can be expected if it is exposed to the room air.

Preferably, the candy in storage should be in packages, and when removed from storage, the packages should not be opened until the candy has warmed up somewhat to about the temperature at which it is displayed. If, however, the humidity of the display section is kept low, its dewpoint temperature will be below the temperature of the candy taken from storage, so there would be no sweating.

Apparently you have analyzed the situation correctly. The storage compartment may be running colder than necessary for short-time storage, and cold enough to cause sweating trouble when the candy is taken out into the room, although you are probably going to have some sweating under this latter condition.

SHOULD BE NO SWEATING IN THE CASES

Nevertheless, there should be no sweating of the candy in the storage compartment, nor in the display compartment, if good circulation of air is maintained. Perhaps the storage compartment is being overloaded, thus preventing adequate air circulation.

From your description, the design of the cases does not make adequate provision for enough air circulation for candy, although it was perhaps sufficient for cuts of fresh meat, for which humidities of 85% or more are desirable.

If the candies on display are piled on pans, as is common practice, possibly these pans are placed so closely together that they restrict air circulation. It may be necessary to allow more space between them. Also it might help to replace the perforated metal plate with wire shelves, or to design air-ducts for each end of the display compartment. Another possibility is to replace the blower fan with a larger one, although this will undoubtedly require a larger fan motor to carry the extra load imposed by the larger fan.

LOW TD MEANS HIGH RH

In meat cases, it is desirable to maintain low temperature differences between the coil and the refrigerated air, in order to obtain high humidities. Eight to 10° t.d. are common, resulting in relative humidities of 85% or more.

To obtain the low humidities for candies, the temperature differences between the coil and the air in the case should be high—at least 20° and probably higher. The higher t.d. can be obtained by increasing the capacity of the condensing unit or reducing the effective area of the coil, but not both at the same time.

REDUCED SUCTION PRESSURE MAY HELP

Since you mention that the compressor runs only a very small portion of the time, you could probably benefit by reducing the coil area. This would reduce the coil temperature and suction pressure, and increase the temperature difference. Also it would reduce the capacity of the condensing unit and increase the running time.

This suggestion assumes that the coil is now fully active, that the expansion valve is properly adjusted, that there is a fuel charge of refrigerant, etc.

Also it assumes that there is no restriction of air circulation through the coil, and that the blower fan is operating continuously. If it is not, it certainly should be. It might also be well to check to see if the coil is completely defrosting between each cycle. It should be easy to do this by means of a low pressure control set for a defrosting cycle.

Your mention that the unit runs only about 10% of the time leads to the suspicion that the charge may be low, the coil not fully active, there may be partial stoppage, etc., for certainly we would expect greater unit operation than 10%.

In accordance with your request for the names of manufacturers specializing in display cases for candies, a list taken from Page 124 of the 1955 edition of the *Refrigeration and Air Conditioning Directory,* the annual directory of manufacturers, wholesalers, and associations connected with the air conditioning and refrigeration industries, published by AIR CONDITIONING & REFRIGERATION NEWS, is enclosed.

AIR CONDITIONING
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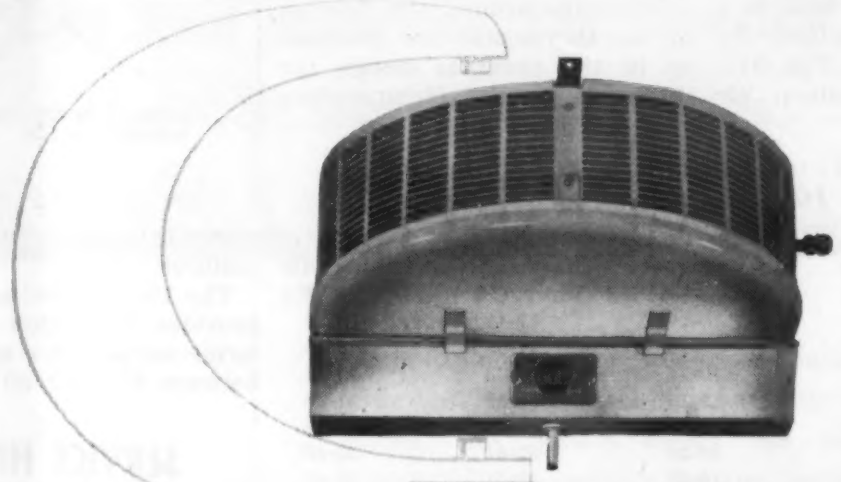

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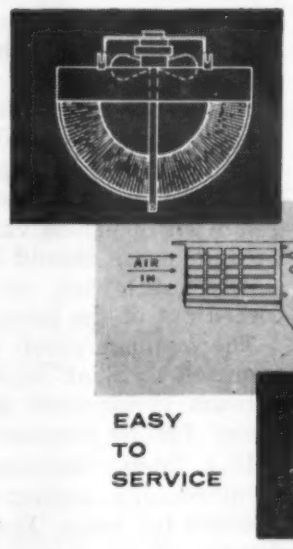

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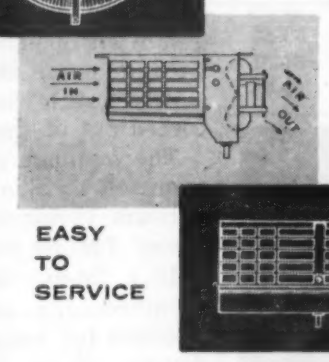

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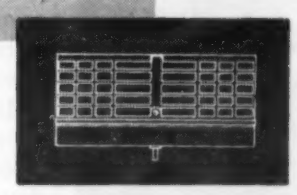

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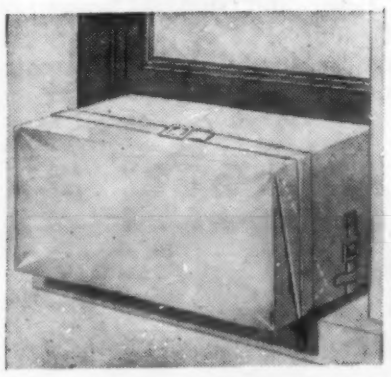

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Servicing Automobile Air Conditioners

BY C. DALE MERICLE

With this instalment we continue discussion of another make of automobile air conditioner — that employed by Buick Motor Div. as a factory-installed accessory.

Additional makes will be featured in future instalments.

BUICK-(4)

Buick Motor Div.
General Motors Corp.
Flint 2, Mich.

The 1955 Buick conditioner uses the same principle of control as earlier models described in previous instalments. However, a Ranco bellows-type thermostat is employed, the relay is eliminated, and the solenoid by-pass valve is held in a normally closed position by spring pressure. (See Fig. 8).

When a rise in return air temperature expands the bellows of the thermostat sufficiently, contacts break the circuit to the solenoid by-pass valve, which then closes by spring pressure to permit refrigeration to resume.

Sufficient reduction in air temperature will contract the thermostat bellows and contacts will close the circuit to the solenoid valve, opening it to by-pass refrigerant around the evaporator.

Windings around the bellows of the thermostat are provided as in the previous design for the "warming" (temperature selection) and "anticipating" features.

The 1955 control arrangement provides regulation of car interior temperature at any point between 67° and 80° F.

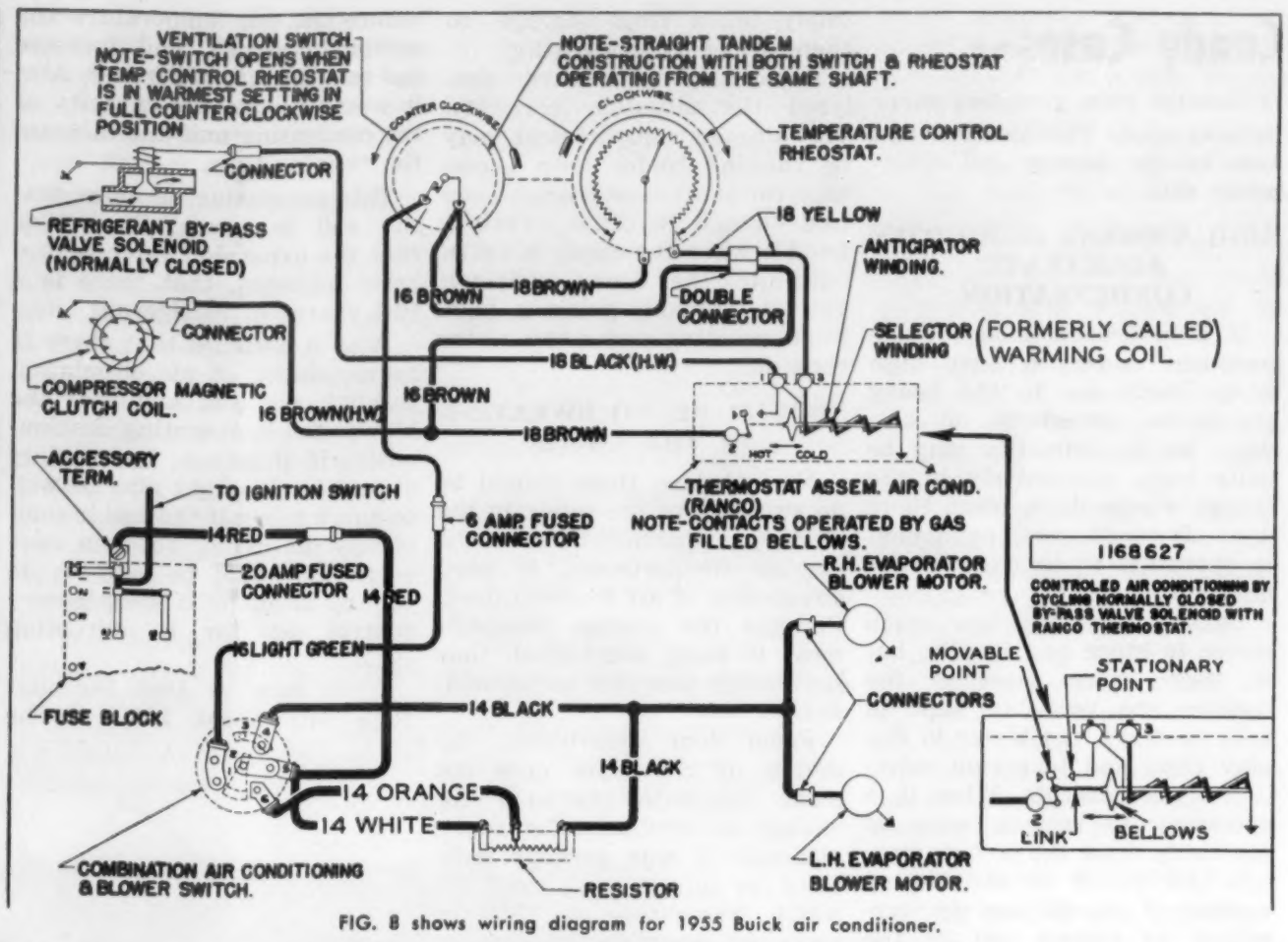


FIG. 8 shows wiring diagram for 1955 Buick air conditioner.

Operating Temperatures, Pressures for 1953-54 Buicks

Ambient (°F.)	Head Pressure (p.s.i.g.)	Suction Pressure (p.s.i.g.)	Return Air Temp. (°F.)	Outlet Air Temp. (°F.)
65	100-110	10-14	37-41	20-21
70	115-125	10-14	44-48	24-26
75	130-140	10-14	49-53	27-31
80	145-155	12-16	51-55	31-35
85	160-170	14-18	54-58	34-38
90	170-180	16-20	57-61	36-40
95	190-200	19-23	60-64	39-43
100	210-220	21-25	64-68	42-46
105	230-240	23-27	67-71	45-49

* * *

Operating Temperatures, Pressures for 1955 Buicks

Ambient (°F.)	Head Pressure (p.s.i.g.)	Suction Pressure (p.s.i.g.)	Return Air Temp. (°F.)	Outlet Air Temp. (°F.)
65	124-134	27-31	67-69	53-57
70	125-135	27-31	67-69	54-58
75	126-136	28-32	67-69	54-58
80	130-140	28-32	67-69	54-58
85	148-158	28-32	68-70	54-58
90	165-175	28-32	68-71	54-58
95	185-195	28-32	71-74	54-58
100	202-212	28-32	74-77	54-58
105	220-230	28-32	77-80	54-58
110	238-248	28-32	80-83	55-59
115	255-265	29-33	84-87	57-61
120	275-285	29-33	88-91	60-64

SERVICE HINTS

Evacuating System

For 1953, 1954, and early 1955 models Buick recommends the use of a vacuum pump for evacuating the unit. (See Fig. 9). Although the vacuum pump can be used on late 1955 models, Buick also advises how these units can be self-evacuated.

In either case, the double evacuation method is employed.

Evacuation procedure using a vacuum pump is as follows:

With the vacuum pump running and both valves on the gauge set open, the valve on the vacuum pump should be opened slowly, otherwise oil may be forced out of the pump.

The vacuum pump should be operated until at least a 26-in. vacuum is obtained and maintained for 10 minutes.

If a 26-in. vacuum can't be obtained, the system must be checked for leaks. The leaks, of course, would have to be repaired before attempting to evacuate again.

After the 26-in. vacuum has been maintained for 10 minutes, the vacuum should be broken with "Freon-12" and the system again pulled down to 26 in. and held there for 10 minutes with the pump running.

On self-evacuation, Buick recommends obtaining a vacuum of at least 25 in.

FIG. 9 shows setup for evacuating (with vacuum pump) and charging Buick system.

Charging System

"Freon-12" is the refrigerant used in Buick air conditioners. Charge is 7 lbs. in 1953-54 systems; 5 lbs. in the 1955 model.

Units are charged through the low side with refrigerant in the vapor stage.

Operating Pressures

Normal operating pressures and temperatures of Buick air conditioners are shown in the accompanying tables. One table gives the data for 1953-54 systems, the other covers the 1955 model.

In making these tests the car should be placed where it is not in direct sunlight or near any other source of heat.

The trunk, all windows, doors, and outside air ventilators should be closed, but the hood is raised.

Buick recommends placing a fan in front of the car to force air through the condenser.

The compressor should be operated at 1,750 r.p.m. for 15 to 20 minutes to permit temperatures and pressures to stabilize before taking any readings.

Solenoid valve on 1953-54 models should be closed by running a jumper wire to the valve from the positive side of the car battery.

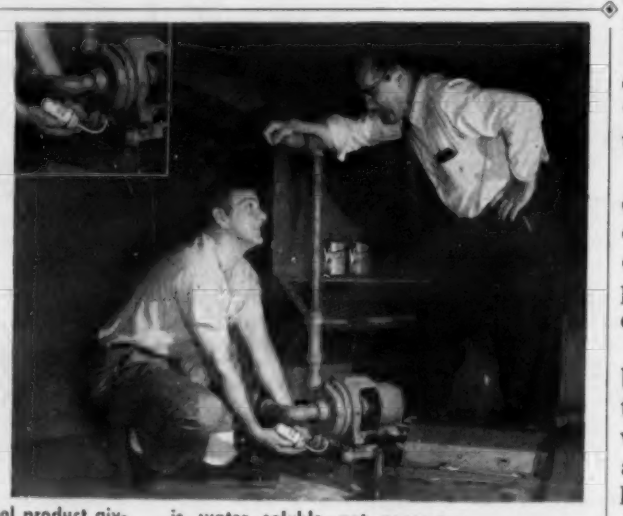
Ambient air temperature is obtained by holding a thermometer in front of the bumper grille. Return air temperature is taken at the return air grille above the thermostat.

Discharge air temperature can be noted at either rear air outlet on 1953-54 systems, and at either outlet on 1955 models.

Head and suction pressures, of course, are taken at the compressor by means of a compound gauge set.

(To Be Continued)

NO Stuck Pumps FOR Me NEXT SPRING!



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. . . and for COMPLETE WATER TREATMENT in refrigeration and air conditioning water recirculating systems, use Vapco Cleaner, Vapco Preventive, Vapco Slime-X and Vapco Ice Cube Machine Cleaner. Available at your favorite wholesaler, or write . . .

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NEW FLO INDICATOR FLAP SHOWS ALL FLOW CHANGES

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The Ninth Exposition of the Air Conditioning and Refrigeration Industry, November 28 through December 1 in Atlantic City, promises to be the biggest and best show the industry has ever held! It's already broken almost every record set by previous shows. *More* space has been taken by *more* individual exhibitors, and *more* new equipment will be shown than ever before!

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Remember—pre-show advertising will hit your market just at the high point of buyer interest for the fall months. The three big issues are November 7, 14 and 21—and don't forget the traditional show issue November 28! Make plans now to be in all four issues—get your advertisements and publicity in as soon as possible. Reservations for space are being received now!

Here's how every ad in the Show promotional issues of the NEWS will pay off with bonus impact.

First, you get the full impact of the NEWS' concentrated circulation in the field. You'll be reaching the very people you want to reach—those who will be at the Show, and those who are your best prospects. Second, you get the bonus impact of *natural interest*. Each issue will be full of news about the Show, so your ad will tie-in directly to the reader's interest at the moment! Third, you get *added* bonus impact by *merchandising* your ads at the Show itself!

To help you get maximum association value from your advertising in all the Show promotional issues, the NEWS offers the most complete merchandising service in the industry:

1. Your advertisement, mounted for display, will be presented to you by the NEWS at your booth. Plan to make your advertisement an integral part of your display, and take advantage of the repeat association you get when your prospects see your advertisement first in the NEWS—and again at the Show!

2. Copies of the NEWS in which your advertisement appears can be sent to your selected customers and prospects. A special bargain price for these four November issues—only 15 cents per copy.

3. Reprints of your ad will be available at cost. Ask your NEWS' representative how you can make the best use of our special merchandising service, both at the Show and before the Show.

SEE YOU AT THE SHOW!

Remember These Three Pre-Show Issue Dates!

November 7
November 14
November 21

Last Forms Close 10 days preceding date of issue.

AIR CONDITIONING & REFRIGERATION **NEWS**

The Newspaper of the Industry

450 West Fort Street • Detroit 26, Michigan

ABP ABC AUDITED PAID CIRCULATION

The Newspaper That Carries More Advertising By Far Than Any Other Publication In The Field.

New York, 521 Fifth Ave.
Murray Hill 7-7158
Robert M. Price

Chicago, 134 S. LaSalle St.
Franklin 2-8093
Allen Schildhammer

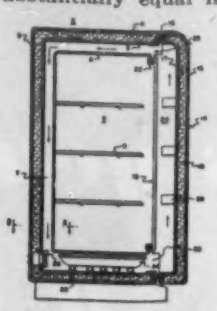
Cleveland, 15515 Detroit Ave.
Lakewood 1-7125
Richard E. Cleary

For more information about products advertised on this page use Information Center, page 28.

Week of June 12 (Continued)

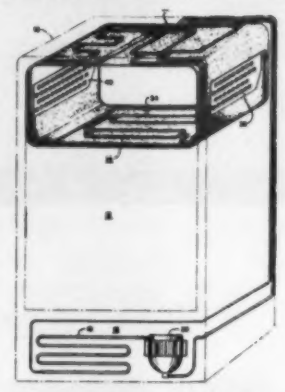
2,712,735. UNLOADER IN REFRIGERATION SYSTEM. Raymond L. Dills, Erie, Pa., assignor to General Electric Co., a corporation of New York. Application Jan. 10, 1952, Serial No. 265,784. 5 Claims. (Cl. 62—115.)

1. In a refrigerating system including an evaporator, the combination of a refrigerating unit including a compressor having high and low pressure sides and a motor for driving said compressor, and means for unloading and loading said compressor comprising a suction line connecting said low pressure side of said compressor with said evaporator, a check valve in said suction line, said check valve being open during normal operation of said compressor for permitting loading of said compressor from said evaporator, means effecting equalization of pressures between said high pressure side of said compressor and said low pressure side thereof when said compressor becomes idle, said equalization of pressures increasing the pressure on the compressor side of said check valve and thereby closing said check valve, said equalization of pressures filling said suction line between said check valve and said low pressure side of said compressor with a refrigerant charge substantially equal in pressure



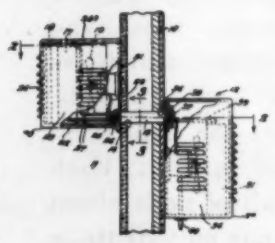
to the refrigerant pressure at said high pressure side of said compressor whereby said compressor is unloaded, and the volume of said suction line between said check valve and said low pressure side of said compressor being sufficient to permit said motor to develop maximum torque when starting before the pressure of said charge between said check valve and said compressor is reduced by said compressor sufficiently to effect opening of said check valve and normal loading of said compressor.

2,712,736. REFRIGERATION EVAPORATOR. Clifford H. Wurtz and Leland H. Grenell, Dayton, Ohio, assignors to General Motors Corp., Detroit, Mich., a corporation of Delaware. Application July 8, 1953, Serial No. 366,699. 2 Claims. (Cl. 62—126.)



1. In a refrigerating system, a roll-forged evaporator having a refrigerant passage formed therein, one portion of said refrigerant passage having an enlargement therein adjacent the outlet thereof arranged in a vertical plane and serving as an accumulator chamber, said enlargement having relatively flat substantially parallel side walls spaced a distance substantially corresponding to the distance between the walls of said passage, said side walls being forge-welded together at a plurality of spaced points so as to prevent bulging of said walls when subjected to high internal pressures.

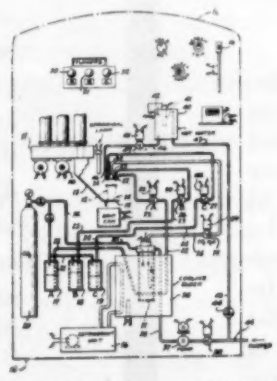
2,712,737. BUILDING WALL ADAPTOR FOR AIR CONDITIONING APPARATUS. John E. Palmer, Cincinnati, Ohio. Application June 1, 1954, Serial No. 433,487. 4 Claims. (Cl. 62—129.)



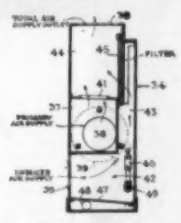
1. In combination with an outside building wall having a relatively small, pre-formed hole therethrough, a straight adaptor tube set in and having its end portions projecting beyond the major faces of the outside wall, a first casing located on the exterior side of said wall and mounted on an end portion of the tube, a second casing located on the interior side of said wall and mounted on the opposed end portion of the tube, said casings being adapted to house complementary parts of an air conditioning apparatus and the adaptor tube forming the only means of support for said casings on the wall, an opening formed through at least one of the casings for receiving the projecting end portion of the adaptor tube, and fastening means cooperable with the said end portion of the tube for securing the casing to the tube.

2,712,887. BEVERAGE DISPENSING MECHANISM. William V. King, Brooklyn, N. Y., assignor, by mesne assignments, to Rowe Spacarb, Inc., New York, N. Y., a corporation of New York. Application Aug. 1, 1949, Serial No. 108,005. 6 Claims. (Cl. 222—132.)

1. In a beverage dispensing machine, a plurality of flavor containers, a first beverage component supply, a second beverage component supply, a beverage dispensing mechanism, a first selecting means, a second selecting means, means responsive to the actuation of the first selecting means for controlling the flow of one of said flavors and one of said components to said dispensing mechanism, means responsive to the actuation of the other of said selecting means for controlling the flow of one of said flavors and the other of said components of said dispensing mechanism and means responsive to the actuation of one of said selecting means for preventing the operation of the other of said selecting means.

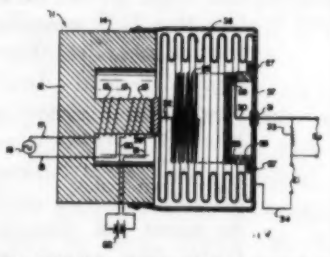


2,712,927. AIR CONDITIONING METHODS. Robert D. Blum, York, Pa., assignor to York Corp., York, Pa., a corporation of Delaware. Application Nov. 25, 1949, Serial No. 129,433. 5 Claims. (Cl. 261—11.)



1. A method of conditioning the air in a room in summer which consists in conditioning primary air in quantity sufficient for ventilation of the room and so that the air is substantially saturated and at a temperature between 40° and 45° F.; delivering said air into the room; causing room air to circulate and to mix with the primary air adjacent the point of entrance of the latter; and supplementing the cooling effect of the primary air by atomizing water in and thus adiabatically cooling the circulating room air at a point in its circulatory path near to but in advance of its arrival at said point of entrance.

2,713,150. MODULATORS. Van W. Bearinger, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., a corporation of Delaware. Application Oct. 1, 1951, Serial No. 249,107. 2 Claims. (Cl. 332—51.)



1. Modulator apparatus comprising in combination: an electromagnet constructed of easily magnetizable material having an electrical winding thereon energized by a source of direct current potential of relatively large magnitude for producing a constant magnetic flux in said electromagnet; a second electrical winding on said electromagnet energized by a source of alternating potential of relatively small magnitude to vary the magnetic flux in said electromagnet; magnetically responsive armature means operated on by said electromagnet; a current conducting coiled spring having its initial tension varying slightly along its length so that its turns separate one at a time in a continuous manner starting at one end and moving to the other such that the electrical resistance of said spring varies with a change in its tension; a resistor; a voltage source; electrical circuit means comprising said source, and resistor, and said coiled spring being connected in series; metallic bellows completely enclosing said spring in a hermetically sealed manner, said bellows being filled with an inert gas, said armature means connected to one wall of said bellows and means supporting said spring from opposite walls of said bellows so that the movement of said armature means in response to the varying flux of said electromagnet effects a change in the resistance of said spring.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" $7.50 per insertion. Limit 50 words, 15¢ per word over 50.

RATES for all other classifications $10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count. Please send payment with order.

POSITIONS WANTED

PRODUCTION DESIGN engineer desires to locate in a medium-sized community with a small, progressive company engaged in the manufacture of products made from light metals. Can offer twenty years' experience design for production, modern fabrication techniques, and cost control. Has extensive overseas contacts. Write BOX A5351, Air Conditioning & Refrigeration News.

MANUFACTURERS' REPRESENTATIVE—qualified engineer, ten years' experience all phases promotion and sales office and residential air conditioning, fifteen years in Los Angeles, wide acquaintance in surrounding states, distributor connections, recently representing AAA-1 Corporation in residential field, top references—desires connection, same area, with progressive manufacturer of all-year equipment. P. O. BOX 751, North Hollywood, California.

POSITIONS AVAILABLE

MANUFACTURERS' REPRESENTATIVES and distributors wanted immediately. Western—Midwestern—Eastern and Southern territories open at this time. Write CLIME-MATIC CORPORATION, Connecticut & Richards Aves., South Norwalk, Connecticut.

DISTRICT MANAGER'S positions open for Philadelphia and Memphis areas. Age 30-40. Appliance sales experience needed. Will sell water coolers and dehumidifiers. THE EBCO MANUFACTURING COMPANY, L. P. Benua, 265 North Hamilton Road, Columbus 13, Ohio. Phone EXeter 2351.

HOLD ON there!—You may be the man we have been searching for. And we think that we can offer you the position you have been searching for. Some jobber experience and a willingness to grow, are all we ask. All replies are held in the strictest confidence, so why not call or write today? LEE EQUIPMENT COMPANY, 4721 Joy Road, Detroit 4, Michigan. TYler 5-9080.

MANUFACTURERS' REPRESENTATIVES now covering Southern States, Texas or Chicago area, contacting commercial refrigeration firms, to sell fast-growing line of special and standard commercial equipment. Write: PAUL R. STEWART, 1712 John Street, Cincinnati 14, Ohio.

MIDWEST MANUFACTURER of refrigeration and air conditioning coils has an opening for a competent sales engineer to contact manufacturers in the Midwest area. Must have actual experience in application of commercial refrigeration and air conditioning equipment, as well as service and engineering experience, to enable him to intelligently assist and sell the engineers of these manufacturers. Here is a splendid opportunity for a man 25 to 35 years of age. Salary, commission and travel expenses. Send full particulars of background and experience. Write BOX A5336, Air Conditioning & Refrigeration News.

THE COMMERCIAL refrigerator business is good and a progressive manufacturer wants to place its dealer organization in a six-state area under the supervision of a territory manager who would locate in the general area of Lincoln, Nebraska; Wichita, Kansas or Tulsa or Oklahoma City, Oklahoma. This manager could be an experienced "fixture" man or a comer who has had some experience. He must be motivated by a desire to be "top man" eventually among our territory managers and have the ability to achieve it. Present sales in the territory provide a sound basis for growth and remuneration can be either salary or commission as agreed upon. We can assume a minimum $10,000 earnings the first year and it should only be a matter of time before you would double that figure. Our supermarket line is outstanding. In addition, some excellent packaged units sold through smaller dealers provide steady volume. Our territory men stay with us and we're sure that if you are the man we want, you'll be happy with us. Write details of experience with photo to BOX A5341, Air Conditioning & Refrigeration News.

MANUFACTURER'S REPRESENTATIVE: Well-established company seeks representative for line of compressors, condensing units, water chillers, water towers. 5 to 60 tons. A number of major territories available. No objection to complementing or non-competing lines. Air conditioning knowledge essential. Give full information on lines handled to BOX A5342, Air Conditioning & Refrigeration News.

REFRIGERATION CONSTRUCTION—Asst. superintendent wanted by leading West Coast contractor. Must be thoroughly experienced in all phases erection heavy central station air conditioning equipment. Knowledge of controls valuable. Top pay with opportunity for advancement. Give full details first letter. Expenses paid for interview. Reply to BOX A5344, Air Conditioning & Refrigeration News.

MANUFACTURERS' REPRESENTATIVES wanted by company producing 2 h.p. and 3 h.p. air-cooled packaged air conditioning units for homes. Write BOX A5345, Air Conditioning & Refrigeration News.

SERVICEMAN: LIVE in nationally famous resort, fishing, hunting area. Work for Northern Michigan's largest commercial and domestic refrigeration dealer handling No. 1 lines. Year-round job. Good pay for right man with references. Write BOX A5346, Air Conditioning & Refrigeration News.

REFRIGERATION ENGINEER capable of setting up production line, test equipment, supervision of testing and complete knowledge of domestic refrigeration manufacture. Midwest location. Manufacturer never before in refrigeration production. Please state experience, age and salary required. BOX A5347, Air Conditioning & Refrigeration News.

WANTED: MANUFACTURER'S representative—For one of the nation's foremost ice flake machines. Twelve models covering most popular demand range. Well accepted by the trade. Prefer men with commercial refrigeration background. Several good territories open. BOX A5348, Air Conditioning & Refrigeration News.

NATIONAL SERVICE manager: Midwest manufacturing company has opening for national service manager with experience and capable of taking complete charge of all phases of Factory Service Department. Excellent opportunity. Salary open. BOX A5349, Air Conditioning & Refrigeration News.

DISTRICT SALES manager: AAA-1 Midwest manufacturing company has opening with exceptional opportunity for district sales manager in New England area and Southeast area. Must have experience in commercial refrigeration field, working with wholesale and retail fixture and equipment accounts. Age 28 to 45. BOX A5350, Air Conditioning & Refrigeration News.

THE YORK air conditioning and refrigeration distributor for concentrated northern Connecticut territory requires a well-qualified sales engineer to be department manager. This is a substantial, permanent keyman position in an old, established company. Replies held confidential. Include complete resume of experience. Address BOX A5352, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

REFRIGERATION VALUES: Attention servicemen; send for our catalog of refrigeration parts; savings up to 50%. WALTER W. STARR REFRIGERATION SUPPLIES, 2833 Lincoln Ave., Chicago 13, Illinois.

Government Contracts

SYNOPSIS OF PROPOSED PROCUREMENT

The following is a partial list of proposed procurement issued by the various indicated U. S. Government procurement offices. Prospective bidders may obtain complete bid sets by a request **to the purchasing office under which the purchase is listed** in this synopsis. Be sure to identify completely the bid invitation you wish by including in your request the item description, the invitation number or reference number and the opening date. This will save time in filling your request. For reasons of economy, specifications are normally not included with the bid invitations unless the specification is a new one. First time bidders on a particular item should request a copy of applicable specifications and drawings at the time the request for a bid is made.

DEPARTMENT OF DEFENSE

NAVY

Commandant of the Marine Corps, Washington, D. C. Code (CSG).
ICE PLANT 1 ton skid-mounted self-contained gasoline-engine driven. Military Spec MIL-I-3624 with exceptions—5 ea—IFB 84B—Bid Opening 4 Nov 55.

GENERAL SERVICES ADMINISTRATION

Procurements of $1000 or More

General Services Administration, Region 5, 575 U. S. Courthouse, 219 S. Clark St., Chicago, Ill.
Following Items listed below are under IFB-CHD-1078—Bid Opening 10-18-55.
REFRIGERATORS, fed spec AA-R-211c, 24 ea—CABINETS, low temperature, 1 ea.

General Services Administration, Business Service Center, 114 Commerce, Dallas, Texas.
AIR CONDITIONING COURT ROOM, U. S. Post Office and Court House, Muskogee, Okla.—Job—IFB CR7561-97—Bid Opening 10-18-55.

General Services Administration, Business Service Center, Region 3, 7th & D Sts., S.W., Washington, D. C.
REPLACING COOLING TOWER FANS, State Department Bldg., 320-21st St., N.W., Washington, D. C.—Job—IFB GS-R3-B-3921—Bid Opening 10-27-55.

General Services Administration, Business Service Center, Dallas, Texas.
NEW EXHAUST FANS in workroom, Post Office, Marshall, Texas.—Job—IFB CR 7561-75—Bid Opening 10-18-55.
NEW EXHAUST FANS in workroom, Post Office and Court House, Okmulgee, Okla.—Job—IFB CR7561-27—Bid Opening 18 Oct 55.

General Services Administration, Region 5, 575 U. S. Courthouse, 219 South Clark St., Chicago, Ill.
HEATING CHANGES, 16th Floor at the State-Madison Bldg., Chicago, Ill.—Job—IFB C&R 683—Bid Opening 10-19-55.

U. S. DEPARTMENT OF COMMERCE

Bureau of Public Road, Equipment, Procurement and Traffic Branch, Rm 1115, GSA Bldg., 18th & F Sts., N.W., Washington, D. C.
Equipment for Wind Tunnel Installation, complete with Fan, Fan Drive Motor, V-Belt Drive, Motor-Generator Set, Speed Control Equipment and Panel Instruments—Job—IFB BPR-Phys. Res. 35—Bid Opening 10-27-55.

CONTRACTS AWARDED THROUGH OCTOBER 7, 1955

General Services Administration, Region 5, 219 S. Clark St., Chicago, Ill.
Refrigerators—22 ea.—$12,623—Jordon Refrigerator Co., 7900 Tabor Road, Philadelphia 11, Pa.

San Francisco District, Corps of Engineers, 180 New Montgomery St., San Francisco 5, Calif.
Fans, electric, bracket desk type, rigid blades, size 12 inch (IFB-ENG-04-203-56-152)—1400 ea.—$25,788—Mimar Products, Inc., 138 Spencer St., Brooklyn 5, N. Y.

Hq. 42d Air Division, Bergstrom Air Force Base, Austin, Texas.
Air conditioning building 304, 1601, 1603 and 1604, Project Ber 24-55, 25-55, 26-55 and 27-55. (IFB-41-602-56-20)—Job—$25,332—Technical Products Co., 1404 East 5th, Austin, Texas.

General Services Administration, Region 6, Business Service Center, 2306 East Bannister Road, Kansas City 14, Mo.
Window Air Conditioners, 2nd, 6th and 9th floors, CH, H. and CU H, St. Louis, Mo.—CR 1526—Job—$22,986—Modern Electric, 2139 Bremen, St. Louis, Mo.

Commanding Officer, Ships Parts Control Center, Mechanicsburg, Pa.
Valve Solenoid, Various, Specs MIL-R-16743B—Contract N104s- 51847 (IFB 104-283-56)—551 ea—$41,207—Automatic Switch Co., 391 Lakeside Ave., Orange, N. J.

General Stores Supply Office, 700 Robbins Ave., Philadelphia 11, Pa.
Filter, air conditioning (N155s-19484) (155-66-56)—4340 ea—$25,160—Farr Company, 2301 East Rosecrans Ave., El Segundo, Calif.

For more information about products advertised on this page use Information Center, page 28.

ROUND-THE-CALENDAR DEALERS ARE THE MOST IMPORTANT OUTLETS FOR ROOM COOLERS

Who *sells* room air conditioners? Appliance dealers? Discount and specialty houses? Air conditioning contractors and dealers? A recent survey conducted by the NEWS traced the sale of room air conditioners and showed that *more than 50%* of them were sold by subscribers to AIR CONDITIONING & REFRIGERATION NEWS.

These dealer and contractor subscribers who represent the backbone of the air conditioning industry are in business 12 months out of the year—selling, servicing, and installing. And they stay in the air conditioning business from year to year!

They are not dependent upon hot weather streaks and fast merchandising programs to build a temporary volume. They control over half of the room air conditioner market because their reputations and *sales efforts* in their own communities have built strong buyer confidence.

Like all other important groups in the air conditioning and refrigeration industry, these men turn to the NEWS every Monday morning for information that helps them sell! They find in the NEWS more than twice as much editorial material devoted to them and their problems as in any other publication in the field. Over the years, they have come to look upon the NEWS as a part of their business equally important as the tools and equipment they work with every day!

Advertising in the NEWS designed to inform and *sell* this contractor-dealer group will go to the very men you want to reach—the men who control over 50% of the room air conditioner market.

AIR CONDITIONING & REFRIGERATION **NEWS**

The Newspaper of the Industry

450 West Fort Street • Detroit 26, Michigan

The Newspaper that Carries More Advertising By Far Than Any Other Publication In The Field

New York, 521 Fifth Ave.
Murray Hill 7-7158
Robert M. Price

Chicago, 134 S. LaSalle St.
Franklin 2-8093
Allen Schildhammer

Cleveland, 15515 Detroit Ave.
Lakewood 1-7125
Richard E. Cleary

For more information about products advertised on this page use Information Center, page 28.

Auto Conditioners--

(Concluded from Page 1, Col. 5)

tremendous factor in this ballooning business.

Next year, it is predicted roundly, close to 350,000 autos will be air conditioned—substantially by the following specialists:

Auto Arctic Air, 219 N. Lincoln, Odessa, Texas, J. E. Denman.

Era Tool Co., 9240 Belmont Ave., Franklin Park, Ill., Ray Heldt.

Pivot Corp., 468 N. Bellevue, Memphis, Tenn., Wade Pitts.

Andwall Mfg. Co., Ixonia, Wis. Main office at: 305 North 25th St., Milwaukee, Wis., H. T. Geib.

A.R.A. Mfg. Co., 1005 Foch St., Fort Worth, Texas, W. E. Lind.

Stewart Refrigeration, P. O. Box 58, Mission, Texas, T. Stewart.

Frigikar Corp., 1602 Cochran, Dallas, Texas, Barren M. Moody.

J. B. Clardy Construction Co., 1728 Layton, Fort Worth, Texas, John L. Clardy.

Automobile Air Conditioning, Inc., 3724 North May, Oklahoma City, Okla., Dale Jordan.

Multi Mfg. Co., 1001 N. Oakwood, Tyler, Texas, George Wilmot.

Frostoramic, Inc., 308 N. Broadway, Tyler, Texas, Jim Fiensy.

Air Conditioning Custom of Chicago, 4474 N. Broadway, Chicago, Ill., R. Peterson.

E. L. Schofield Co., 216 Mill St., Rockford, Ill., David Rumer.

Southwest Automobile Air Conditioning Co., P. O. Box 7024, Fort Worth, Texas.

Novi Air Conditioning Co., Novi, Mich.

John E. Mitchell Co., 3800 Commerce St., Dallas, Texas, Robert Myrant.

Kold-Kar Corp., 1187 South First St., Abilene, Texas, R. D. Bandeen.

Mobile-Aire Mfg. Co., 1917 Renner, Fort Worth, Texas, H. E. Holmes.

Capitol Refrigeration & Mfg. Co., 3922 Kalloch, Dallas, Texas, Wm. Anglin.

Mark IV Co., 3110 N. Walker, Oklahoma City, Okla., Robert Anderson.

Acton Mfg. Co., 605 South Summit, Arkansas City, Kan., O. W. Thurman.

Forston Mfg. Co., 1400 Conti, Houston, Texas, C. E. Forston.

Cold, Inc., 9207 North Western, Oklahoma City, Okla., L. H. Thornberry.

PLUS Frigidaire, of course.

Biggest problem in automotive air conditioning currently is service. Few auto dealers or garages know anything about air conditioning. That's why, some say, major automobile manufacturers have discouraged air conditioning by keeping prices extra-high, and by installing it reluctantly.

Copper Prices--

(Concluded from Page 1, Col. 3)

ducers continued to hold at 43 cents a pound. One official of a major copper producer indicated that at a price of around 36 cents a pound, copper producers need not fear inroads of other metals.

Lonergan Makes--

(Concluded from Page 1, Col. 2)

new Coolerator products is planned to start in November, and marketing on a national basis through manufacturers' agents has already been started. Details regarding the new models will be released sometime within the next two weeks.

Lonergan has been manufacturing air conditioners for the past five years, and for the past three years has made all of the units for Admiral Corp.

Weathertron Names Moran

BLOOMFIELD, N. J. — Appointment of Moran & Co. here as a retailer for the G-E Weathertron has been announced by the General Electric Co.'s Weathertron Dept.

The Moran company will distribute Weathertrons in the Essex County area. Michael T. Moran is the owner.

Motors Conference Oct. 19-20 Covers Space Heating, Cooling Application

ST. LOUIS — Sixteen papers offering broad coverage of the subject will be presented at a two-day conference here on "The Application of Motors to Space Heating and Cooling Equipment."

Open to all interested persons, the conference will be held Oct. 19-20 at the Chase hotel. It is sponsored jointly by the single phase and fractional horsepower subcommittee of the committee on rotating machinery of the American Institute of Electrical Engineers and the institute's St. Louis Section.

Registration fee is $5. Requests for reservations should be sent to John K. Howell, Westinghouse Electric Corp., 411 N. 7th St., St. Louis, Mo.

Two papers will be read at the opening session Wednesday morning, Oct. 19. One will deal with "Starting Equipment for Air Conditioning and Refrigeration Machines" and the other will cover "Controls for Hermetic Motors."

The afternoon session will be opened with presentation of a paper on "Underwriters' Laboratories' Facilities for Testing Air Conditioners and Refrigeration Equipment."

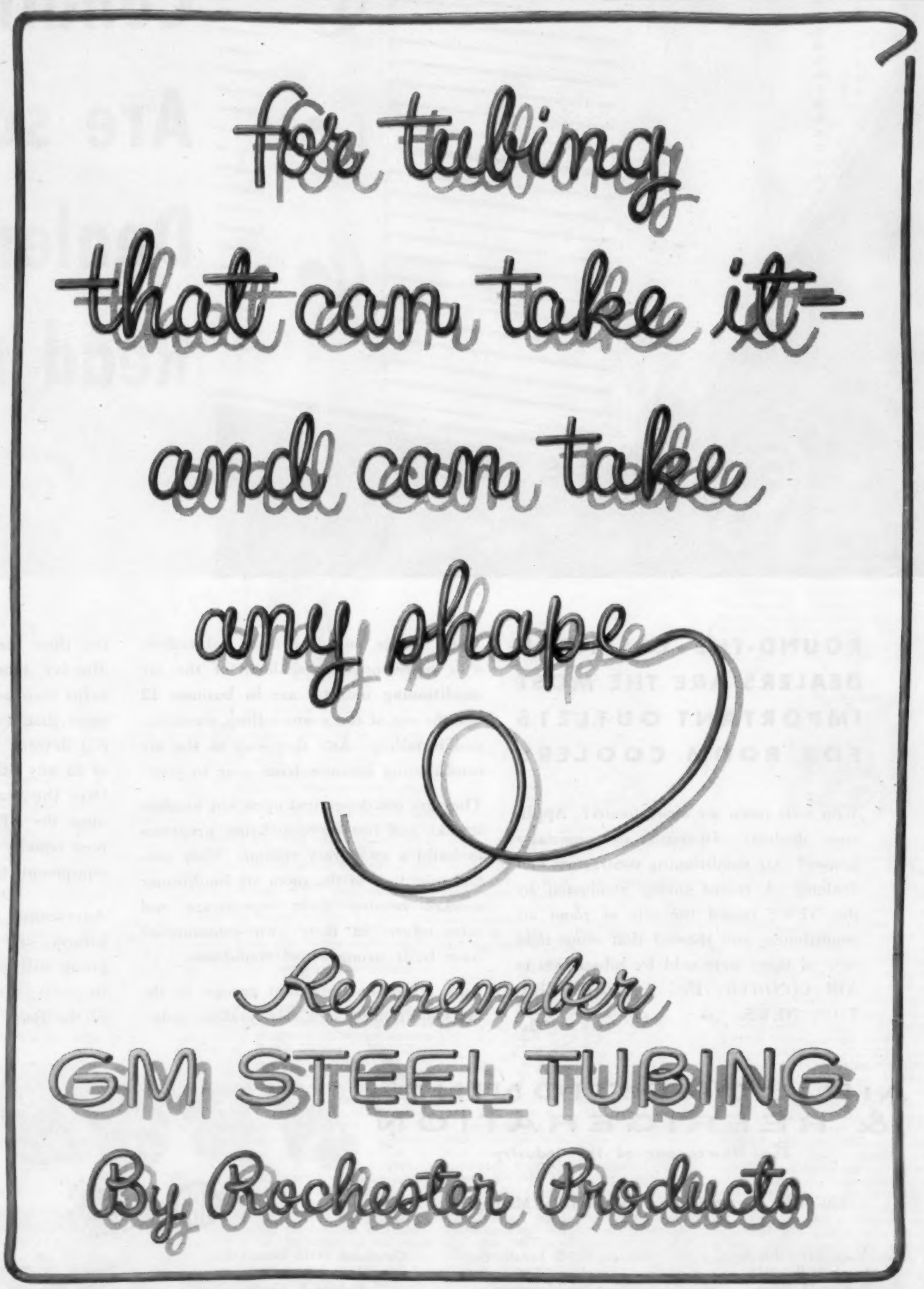
Other speakers will discuss "Design Considerations for Single Phase Air Conditioning Motors," "Some Aspects of Application of Permanent Split Phase Capacitor Motors to Direct-Connected Fans," "Some Aspects of Surge Comparison Testing of Fractional Horsepower Motors," and "The Use of Permanent Split Capacitor Motors on Small Fan Applications."

Talks scheduled for Thursday morning concern "Utility Company Problems Arising from Extensive Air Conditioning Loads," "What is an Air Conditioning Horsepower," "The Heat Pump," and "Selection, Installation, and Maintenance of Electric Motors for Cooling Towers."

Five papers will be presented Thursday afternoon. One will discuss the "Importance of Location of Inherent Protectors on Hermetic Compressors" and another will be on "Larger Single-Phase Motors."

The others will deal with "A New Method for Part Winding Starting of Polyphase Motors," "Alignment Chart to Simplify Fan Motor Selection," and "The Torque Motor—A Special Motor with a Special Purpose."

Conference luncheons are planned for both days, and a banquet will be held Wednesday evening.



GM STEEL TUBING BY ROCHESTER PRODUCTS, DIVISION OF GENERAL MOTORS, ROCHESTER, N.Y.

For more information about products advertised on this page use Information Center, page 28.